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The Journal of Ayurveda

on the Hindu System of Medicine

Vol. IV.] March, 1928. [No. 9.

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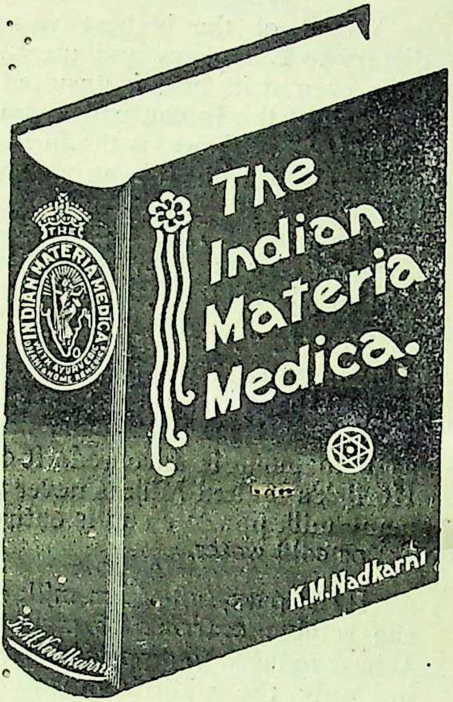

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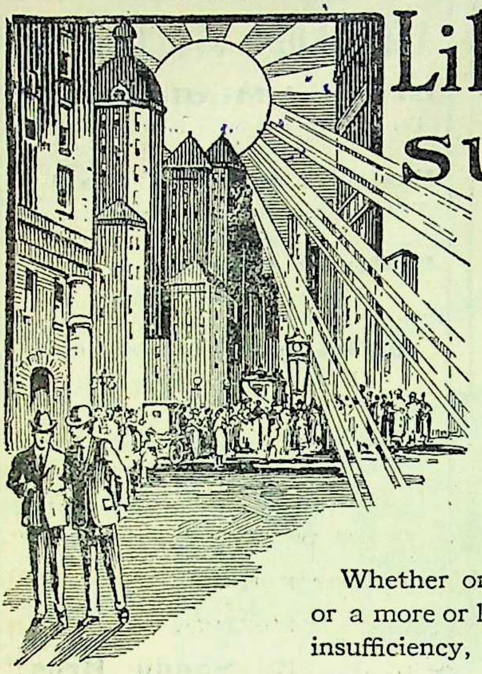

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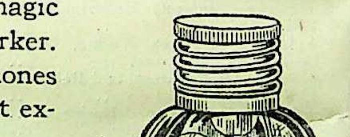

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THE JOURNAL OF AYURVEDA

Vol. IV.] March, 1928. [No. 9.

Late Lord S. P. Sinha

We regret to announce the death of Lord S. P. Sinha, which melancholy event took place last month at Berhampore where he had been staying for a few days with his son Hon'ble Sushil Sinha, I.C S. He was apparently keeping good health, so much so that he attended an at home party the night previous and died towards morning of the same night of heart failure. He was only 64 at the time of death.

Lord Sinha was born at Raipur in the district of Birbhum in 1864.

He was a good scholar in school and colleges and was enrolled as an advocate of the Calcutta High Court. He had to begin his legal career quite humbly like other lawyers and had to accept a lecturership in the Ripon Law College for some time. The genius in Lord Sinha however did not take a very long time to shine and he rose up to eminence in the profession in a very short time. He was the first Bengalee to become Advocate General of the Calcutta High Court, the first Bengalee to become Law member, the first Bengalee to sit in the Executive Council, the only Indian to become under Secretary of State for India and the only Indian to obtain Peerage and become the Governor of a Province. It may be justly said of him that he was the pioneer not only in the service to the state but in that of the country as well. He was at one time the President of the Indian National Congress which he served in his own way till his death. He might have differed materially in the ideal of freedom for India with the present day politicians but about his patriotism, sincerity of heart and, above all, firmness of principles and convictions there can be no doubt.

Although he was suffering from a sort of general debility, he came to India from England on the eve of the Simon Commission's visit to this country, just to study situations here and was working as a peace-maker, and that too for the sake of his motherland !

In his death India has lost a great man, a sound politician and an ardent worker. We sincerely pray for peace for the departed soul and offer our sincere condolence to the bereaved family.

A DIRECTORY OF AYURVEDIC MEDICAL PRACTITIONERS

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The following has been sent by the secretary of the All India Ayurveda Mahamandal for publication :—

As decided in the seventeenth session of the All-India Vaidya Conference, Patna, the compiling of the directory of all the vaidyas has begun. The forms are duly being sent to all the Vaidyas. Those, who have not received the forms should apply for them to the office of All-India Ayurveda Mahamandal, Nayaganj, Cawnpore, and return the forms after filling them properly to the same address. The Directory will contain the names and addresses of all the Ayurvedic physicians and will be used for the purpose of organising the Vaidyas and propagating the Ayurveda shastra. Every Vaidya should pay proper attention to this notice.

Original Articles

HUMAN PARASITES IN THE ATHARVA VEDA

BY

DR. GIRINDRA NATH MUKERJEE, B.A., M.D., F.A.S.B.

(Continued from our last issue.)

FORBIDDEN FOOD

In Ancient India, animal food was in common use. Flesh is described as the best kind of food (*Sp. Br.*, ix. 7, 2, 3). Gravy is similarly described as the highest kind of food (*Sp. Br.*, xii. 8, 3, 12). *Mamsaudana*—a dish consisting of 'meat cooked with rice' is mentioned in *Sp. Br.*, xi. 5, 75 ; *Vrihad Ar. Upa.*, vi. 4, 18 ; and *Sankh. Ara.*, xii. 8. The gods are supposed to eat the ritual offering of flesh, and the Brahmanas ate the offerings. So Agni is called the eater of ox and cows (*Rv.* viii. 43, 11 : *Av.* iii. 21, 6 ; flesh-eating xi. 11, 3 ; xii. 2, 4, 7-10 ; *Tai. Sam.* 1. 3. 14 ; 7). In *Av.* ix. 5, the offering of a goat with five rice-dishes is highly extolled.

From the list of the sacrificial victims we can gather that the flesh of the sheep, goat and ox supplied the animal food of the ancient Hindus. The horse flesh was also used in earlier times, though Oldenberg (*Religion des Veda*, 356, n, 4) explained that the object of the horse sacrifice was to import magic strength and vigour of the horse to Gods and their worshippers. *Yusan* : means the broth which was made from the flesh of the sacrificial animal (*Rv.* i. 162, 13 ; *Tai. Sam.* vi. 3 ; ii, 1, 4). The word occurs as *Yus*, which corresponds to the latin Jus. Though meat-eating seems to have been a favourite food of the Hindus from very early times, some animal foods are forbidden. The reason is that when these animals are sacrificed they become changed into something else :

When	sacrificed	man	became	Kimpurusa.
,,	,,	horse	,,	Bos gaurus.
,,	,,	ox	,,	Gayal (Bos Gravenrus).
,,	,,	Sheep	,,	Camel.
,,	,,	Goat	,,	Surabha.

So one should not eat the flesh of all these animals for they are deprived of the sacrificial essence (*Sp. Br.*, 1, 2, 3, 9). "In the *Ait. Br.*, ii. 1, 8, the man, the horse, the ox, the sheep and the goat are declared to be *medhya* or fit for sacrifice. The offer of beef to the fathers in the Sraddhas has been extolled in *Apast.* ii, 7, 16, 26. In the *Pamsa-medha Yajna* the cow-killer is dedicated to death (*Vaj. sam.* xxx, 18 ; Cf. *Taitt. Br.* iii. 4, 1. 16 ; *Gautama*, xvii, 30).

BEEF

Beef is the forbidden food of the Hindus. But in the Vedic times we found it to be used by sages. It used to be offered in sacrifice and often served as food (*Rv.* i, 61, 12 ; v. 52, 17 ; vi. 16, 47 , 28, 4 ; 39, 1 ; x, 28, 3). Even as for a King or a Brahmana one would cook a large ox or a large he-goat for that is human fare offered to a guest (*Sp. Br.* iii. 4, 1, 2). The slaying of a great ox (*Mahoksa*) or a great goat (*Mahaja*) for a guest was regularly practised (*Sp. Br.* iii, 4, 1, 2 ; *Sankha Grihya Sutra* ii, 15, 1, 2 ; *Asv.* i. 24, 30-1 ; *Paraska* i, 3, 26, 7 ; *Khadira.* iv, 4, 17-20 ; *Gobhila* iv. 10, 18-22 ; *Hiranyakesin* i, 4, 13, 10-13 ; *Apastamb*, v. 13, 15-16 ; Cf. *Sp. Br.* iii, 4, 1, 2), and this practice of cow killing, for a guest is referred to in the terms *Atithigava* (Bloomfield, *A.J.P.* 17, 426 ; *J.A.O.S.* 16, cxxiv) and *Goghna* (cow-killer) ; see Weber, *Ved. Beitrage*, p. 36. In *Rv.* x. 68, 3 ? we find *Atithinir gah*, *i.e.*, 'cow fit for guests.' Agastya is said to have slaughtered a hundred bulls (*Uksan*) (*Tai. Br.* ii. 7, 11, 1 ; *Pancavimsa Br.* xxi, 14, 5). The marriage ceremony was celebrated by cow-killing for food (*Rv.* x. 85, 13 ; Winteritz *Das altindishe Hochzeitstrituell*, 33). The heroes are said to have cooked a spotted ox (*Uksan*) in *Av.* ix. 10 25. The meat of bulls, rams, and buffaloes are alluded to in the *Rigveda* i. 134, 43 ; v. 29, 7 ; vii. 12, 8 ; viii. 66, 10 ; x. 27, 2. Wilson quotes many hymns to prove that beef used to be eaten by the Vedic Aryans (See his *Rigveda*, vol. 1, pp. 111, 163, 165, 276, 416 and 453). See also R. L. Mitra's *Indo-Aryans* Vol. i, pp. 361-3 ; 374-6. In *Rv.* x. 86, 13 offering of bulls is given to Indra and in the same hymn *v.* 14, cooking of fifteen or twenty bulls is referred to ; and such a food is said to make the body muscular and strong.

The cow has been venerated from the prehistoric times by the Hindus. The cow has been identified with goddess Aditi and so the animal ceased to be killed (*Sam.* viii, 108, 15).

In the *Yayurveda*, *Madhyandini sakha*, 22nd *Kandika*, prayer is offered to Varuna in atonement of sin caused by killing cows for sacrificial purposes though it is known from time immemorial that the bovine race ought never to be slaughtered. In *Av.* xix. 16, 2 ; 29, 15 ; 44, 9, cows are called inviolable. See also ix. 4, 2, 17, 19 ; x. 9. 3, 11 ; iv. 11, 3. In Av. ix. 6, 39, the milk and flesh of cow are described as sweet, but the latter, the guest is cautioned not to partake of.

Many passages may be quoted which would show clearly that cow-killing used to be regarded as a sin and that beef was considered as a forbidden food. It is recommended that when performing a vow (*Katya. Srauta Sutra* 11. 1, 8) as Brahmacarya, meat in any form should not be indulged in. In *Av.* vi. 70, 1, meat is classed with *sura* or intoxicating liquor. In *Rv* x. 35, 13, the slaying of cows is said to take place in *Aghas*. The Brahmanas (*Sp. Br.* xi. 6, 1, 1 ; *Jaiminiya Br.* 1, 42—44 ; *Ait. Br.* 11. 1, 2,) also contain the doctrine that the eater of flesh in this birth would be eaten in his next birth. In the *Rv.* cow is called *Aghanya* i.e., 'not to be slain'. (*Rv.* viii. 101, 15, 16, *Vaj. Sam.* iv. 19. 20 ; *Av.* vii. 73, 8, 11 ; ix 5 ; x. 10 ; xii, 4 ; Macdonnel, *Vedic Mythology.*, p. 151). The cult of the holy cow is fully established in *Av.* xii, 4 and 5. The true reason for not allowing beef as an article of food is thus described in *Sp. Br.* iii. 1, 2, 21 : "Let him not eat the flesh of either the cow or of the ox ; for the cow and the ox doubtless support everything here on earth. It is a sin as that of one who has expelled an embryo from a pregnant woman." But nevertheless the sage Yajnavalka said "I for one eat it provided that it is tender (*Amsala*)". The word *amsala* may mean 'strong,' or 'from the shoulder.'

In the *Mahabharata*, there are many passages which clearly show that the cows were regarded as inviolable. The reasons for not slaughtering cows are given as follows :—" The cows give us milk which nourishes all creatures. (*Anusasana Parva*, ch. 71) "The cow yields sweet milk which nourishes my emaciated son who does not suckle his mother's breast (*Ibid*, ch. 70). Indra has said that milk is *Amrita* or nectar (*Ibid*, ch. 66) "The cows are highly useful animals as they supply men with curdled milk, milk, ghee, cowdung, leather, bones, horns and hairs. They are never tired of work, in winter, summer or during the rains. They do their work by constant labour" (*Ibid*). Thus we see that chiefly for the highly usefulness of the animal, cow-killing ceased to be performed, as we find in *Sp Br.* (iii. 1, 2, 21 ; vii, 5, 2, 19) its practice is forbidden. But there are passages in the *MBH.* (*Ibid* ch, 88, where it is said that beef offered in the Sraddha ceremony (the ceremony of offering oblations to manes), satisfies the fathers for one year. Rantideva is said to have sacrificed many bulls in his sacrifices and the serum that oozed from the skins of the slaughtered bulls formed the river Carmanvati (*Ibid*, ch. 60). This shows that in the Epic times, meat eating was also common (See Hopkins *J. R. A. S.*, 13, 119, 120 ; *Great Epic of India, 377-379*).

"There is a very old rule, for instance, against slaughtering animals and eating meat ; while to eat beef is a monstrous crime. Yet it is plain from the epic that meat-eating was customary, and Vedic Texts are cited (*iti srutih*) to prove that it is permissible ; while a king is extolled for slaughtering cattle (iii. 208, 6-11). It is said out and out in iii. 313, 86 that 'beef is food' "*gaur annam*." Hopkins *The Religion of India*. p. 365.

The first of the ten commandments, the Buddhists' Decalogue, is the command "Not to kill" or अहिंसा. It includes not only human beings, but all kinds of animals, and even varied forms of life. One of the six requisites of a Bhiksu is *Parisravana*, a water-strainer, an apparatus for filtering the water which he drinks, so that he may not, even unwillingly, take animal life. Manu also lays down that an ascetic (*Yati*) must drink water which has been strained through a piece of linen. (*Manu Samhita*. vi. 46).

As to meat-eating during the Buddhist times, we may mention that even to the Venerable Buddha one of his desciples offered a meal of pork ; he accepted the offer, ate it, and died from its effect (Fleet. *J. R. A. S.*, 1906, 881, 882 ; Oldenberg's *Buddha* 231, n. z. (*contra neumann Dei Reden dis Gotama Buddha* i. xix). Traces of the sacrifice of cow and ox survived so late as the *Jatakas* (145, i, 494 ; 199, ii. 135 ; 438, iii. 338).

In the *Uttara Ramacarita*, Act iv, we find a reference to the use of beef as an article of diet for respectable guests :—

Saudhataki : "I thought, however, that he (Vasistha) must be tiger or wolf"
Bhandayana : Pshaw ? What nonsense do you say ?
Saudhataki : Arriving here he forthwith made a repast of that poor creature, the calf, crunching it by his teeth.

Bhandayana: Out of respect for the dictum of the Vedas that the respectful offering of honey (and curds) should be made along with meat, house holders offer a calf, or a big bull, or a big goat to a guest well-read in the Vedas. And the writers on Codes of Law lay down it to be a (householder's) duty.

Saudhataki: Oh ? you are worsted in the argument.

Bhandayana: How so ?

Saudhataki: On the arrival of the respectable Vasistha the heifer was killed ; but the revered Valmiki made the respectful offering of *madhuparka* to the royal sage Janaka, arrived to-day, with honey and curds alone ; but the calf was let off.

Bhandayana: The sages have prescribed such rites in the case of those who have not given up eating meat. But the honoured Janaka has abstained from flesh.

Beef eating must have been common at the time when the poet Bhavabhuti wrote, otherwise he would not have introduced such a topic in the conversation of students. Apparently this practice was falling into disuse as shown by the sympathy expressed by one of the students for the calf.

In modern times though animal food is not universally eaten, meat as an article of food has many votaries (Jolly, *Deutsche Rundschau*, July 1884, 118 ; *Buhler Report*, 23). Cf. Schradan *Prehistoric Antiquities*, 316 ; Hopkins, *Religion of India*, 156, 189).

In Vedic India, money was not in general use and a person's wealth was calculated in cattle, cattle-lifting was popular among the people, and even kings engaged in war to secure cows (*Govistha*—the desire for cows.)

Cattle rearing was from the earliest times one of the chief means of sustenance to the Aryans. Milk and butter was the favourite food of the Gods and their worshippers. The tending of cows was regarded as an act of merit. The close association of the honseholder and his flocks is indicated by many terms which are still used in India. *Duhita* is the common name of daughter and the milk-maid (*root—duha* to milk) ; *Mahisi* is the common term for the queen and the buffalo-cow ; *Gopa* is the term for the king and the cowherd ; *Gostha* means an assembly hall and a cow-stall.

Dr. Rajendra Lal Mitter thus speaks of the *Gomeda Yajna* :

"Scores of different ceremonies, which required the meat of cattle for their performance, and considerable stress is laid on the kind and character of the cattle which should be slaughtered for the supply of meat for the gratification of particular divinities are mentioned in the Brahmanas.

"Thus, among the *Kamya Ishtis*, or minor sacrifices with special prayers (B. III, C. viii), we have to sacrifice a dwarf ox to Vishnu ; a drooping-horned bull with a blaze on the fore head to Indra as the author of Sacrifices or as the destroyer of Vritra ; a thick legged cow (*Prishnisaktha*) to the same as the regent of wind ; a white-blazed drooping-horned bull to the same, as the destroyer of enemies, or as the wielder of the thunder-bolt ; a barren cow to Vishnu and Varuna ; a cow that has lately miscarried to Aushabhayh ; a bull that has been already sanctified at a marraige or other ceremony to Indra and Agni ; a polled ox to Brahmanaspati ; a black cow to Pushan, the cow that has brought forth only once to Vayu ; a brown ox to Indra, the invigorator of our faculties ; a speckled or piebald ox to Savita ; a cow having two colours to Mitra and Varuna ; a red cow to Rudra ; a white barren cow to Surya ; a white ox to Mitra ; a cow that has miscarried from taking the bull unseasonably to Vayu ; a cow fit to conceive to Bhaga, &c. In a Rule in connection with the Asvamedha, the same authority lays down that sacrificial animals should differ in caste, colour, age, etc., according to the Gods for whom they are designed.

"In the larger ceremonies, such as the Rajasuya, the Vajapeya, and the Asvwamedha, the slaughter of cattle was an invariable accompaniment. Of the first two, the Gosava formed an integral part, and it ensured to the performer independent dominion in this world, and perfect freedom in the next to saunter about as he liked, even as the cow roams untrammelled in the forest.

"In the account of the Asvamedha, the *Taittiriya Brahmana* recommends 180 domestic animals to be sacrificed, including horses, bulls, cows, deer, Nilgais, etc. A number of wild animals were, likewise, on such occasions, brought to the sacrificial posts, but they were invariably let loose after consecration. The authority, however, does not distinctly say how many heads of cattle were required for the purpose, the number perhaps varied according to the exigencies of the guests among whom crowned heads with their unwieldy retainers formed so prominent a part, and whose requirements were regulated by a royal standard. But even the strictly ceremonial offering was not, evidently, completed with a solitary cow or two. Out of the 'ten times eighteen heads' required, a great many must have been bulls, cows and heifers of diverse colours and ages."—*Indo-Aryans*, vol. i, pp. 361-3, 374-6.

In the *Pancha Saradiva Sabha* or the 'quinquennium of autumnal sacrifices' 17 Dwarf heifers under three years were immolated.

The *Gopatha Brahmana* of the *Atharvaveda* gives the names of the individuals who are to receive the shares of the meat.

Prastata	Two jaws and tongue
Pratiharta	Neck and pump
Udgata	Briskets
Adhvaryu	Right chine and shoulder
Upgata	Left chine
Pratiprasthata	Left shoulder
Brahma Rathya's wife	Right rump
Brahamanacchansi	Right hip
Pota	Thigh
Hota	Left rump
Maitra Varuna	Left round
Acchavaka	Left leg
Nesta	Right arm (clod)
Sadasya	Left clod
Grihapati	Sirloin, flank, *sada* and Anuka
Grihapatni	Loin or pelvis
Agnidhra	Stomach (*Vanistu*), heart, kidney and right fore leg
Atreya	Left leg
House holder (ordainer of sacrifice) His wife	Two right feet Two left feet and upper lip
Gravastut	3 Vertibras of neck and *manirja*
Leader of cow	3 other vertibra and a half of the primium

Camasadhvaryu	Bladder
Subrahmanya	Head
Inviter to soma sacrifice	Hide

A great European scholar writes :—

"Cow is the distinctive animal of Aryan life. For absolutely unfited by nature for the hardships of a nomadic existence, or for the torrid heat of the open steppe, it needs the protection of forest glades, the coolness of streams, the rest and sweetness of meadows, exactly suiting the farming stage of culture, which immediately follows on the nomadic and precedes or co-exists with the city-building stage, since its wants and the care it demands are such as can be supplied only under favourable and settled condition of life, even though still very primitive. And in that stage the first in which the Aryan race appears to the historical vision, we can scarcely realise what a wonderful, God-given, all-sufficient treasure, this gentle, homely, patient companion must have seemed to a people broken up into families or small clans, wholly dependent each on its own dairy and patch of tillage. The sweetest, most wholesome of foods, flowed from her udder, easily transformed in the butter which, melted and clarified, fed the sacred flame on the *home*-altar, while her mate, the fiery bullock supplied meat for the burnt-offering, or, tamed and trained, became the obedient labouring steer. There were no bounds to the gratitude and reverence, the loving care they paid to this to consider the cow as something holy and half divine. It became to them the sacred animal, the object of almost worship which it remains to this day among their descendants in India."

The Cows' Milk and its Products

From the cow comes fresh milk, from her, boiled milk, from her, cream, from her, sour curds, from her, sour cream, from her, curdled milk, from her, butter, from her, ghee, from her, clotted curds, from her, whey. (*Sp. Br.* III. 3, 3, 2). Goats' milk (*ajà-ksira*) is also mentioned (*Sp. Br.* xiv. 1. 2, 13) cf. Zimmer *Altindescheo Leben*, 63, 226, 268).

Ksira : milk was highly priced by the Vedic Indians (*Rv.* i, 109, 3 ; 164, 7 ; viii. 2, 9 ; ix. 67, 32 ; x 87, 16 (=*Av.* viii. 3, 15) ; Av. ii, 26, 4 ; v. 19, 5 ; x, 9, 12 ; *Tai Sam.* iii, 4, 8, 7). It was either taken warm from the cow. (i, 62, 9 ; 180, 3 ; iii, 30, 4) or was used with grain "mess cooked with milk" (*Kshira-pakka* *odana*). (*Rv.* viii. 77, 10 ; *Av.*, xiii, 2, 20 ; *Tai. Sam.* iv. 4, 9, 1 ; *Vai. Sam.* viii. 57). or was mixed with Soma for a drink.

Ghrita—The milk was made into butter. The clarified butter is mentioned in *Rv.* (1, 134, 6 ; ii, 10, 4 ; iv. 10, 6 ; 58, 5, 7, 9 ; v. 12, 1) and in the *Samhitas* (*Vaj Sam.* ii. 20 ; *Av.* iii. 13, 5 ; *Sp. Br.* 1, 8, 1, 7 ; ix. 2, 1, 1). When butter was fully melted, it was called *Sarpis* ; and when melted and hardened, it was called *Ghrita* (*ghani bhuta*) (Sayana's Commentary on *Ait. Br.*. i. 3).

Dadhi.- Milk was also curdled, the *putika* and *kvala* plants among others, being used for the purpose (*Tai. Sam.* ii. 5, 3, 5). The curdled milk was used for food. It is repeatedly mentioned in *Rv.* (viii. 2, 9 ; ix. 87, 1) and later (*Av.* iii, 12, 7 ; iv. 34, 6 ; *Tai Sam.* ii, 5, 3, 4 ; *Pancavimsa Br.* xviii, 5, 12 ; *Sp Br.* 1, 8, 1, 7) literature. It was also used for mixing with Soma (*Rv.* 1, 5, 5 ; 137, 2 ; v. 51, 7 ; vii, 32, 4).

Mastu—Sour curds—It is mentioned in *Yv. Samhitas* (*Tai. Sam.* vi, 1, 1, 4 ; *Kathaka Sam.* xxxvi. 1) and the *Brahmanas* (*Sp. Br.* 1, 8, 1, 7 ; ii. 3, 3, 27). Eggeling translates *mastu* by 'whey' (*S. B. E.* 12, 218).

Navanita—Fresh butter is mentioned in the later *Samhitas* (*Tai. Sam.* ii, 3, 10, 1 ; vi, 1, 1, 5 ; *Kathaka Sam* xi, 7 : *Mai Sam.* ii, 3, 4) and the *Brahmanas Sp. Br.* iii. 1, 3, 7, 8 ; v. 3, 2, 6 ; *Jaiminiya upanishad Br.* iii, 5, 3), This is the kind of butter which is fitted for anointing an embryo (*garbha*) (*Ait. sam.* i, 3),

Sara—It is the cream, the thich part or coagulum of milk or curds.

Srita
Atanchana
Amiksha } *Chana*, also known as *kshira*, *Dadhikurchika*,
Vajina } *Payasya* or *kshira santanika*.

Charaka forbids the use of meat of cattle. He says, "The story runs that in ancient times animals were used to be presented at the place of sacrifice, but were never killed as sacrifical animals. Then after the sacrifice performed by Daksa Prajapati, Marisvan, Nabhaga, Iksaku, Kubidacarya and other sons of Manu introduced the system of killing animals in sacrifices with the consent of animals themselves. Later on King Prisadara, during the performance of a *Yajna* which required a very long period of time for its performance, initiated the custom of offering cattle in sacrifice through scarcity of other animals. All men were too much agrieved in consideration of the usefulness of cattle to mankind. Again as the meat of cattle was heavy, hot and uncongenial and as it was partaken in excessive quantity, the process of digestion and exeretion were stopped and then dysentery appeared for the first time in the Sacrifice of king Prisadara. *Charaka Samhita* VI, p, 418.

In the list of food-stuffs which have been declared as injurious to man we find fish, flesh and wine—

कटवम्लतिक्तलवणोष्णहरीत शाकाः

सौवीरतैलशर्षपमत्स्यमद्याः

अजादिमांसदधितक्रकुलत्थकोलाः

पिण्याकहिङ्गुलसुनादि न पथ्यमस्मिन् ।

गोकर्णी गवयो गुरुः ।

Bhela Samhita XXVIII, p. 51.

In the *Manu Samhita*, Chapter V, fish eating has been deprecated—

मत्स्यादः सर्व्वमांसदस्तस्मात् मत्स्यान् विवर्ज्जयेत् ।

In the *Mahabharata*—

मद्यमांसाशन रात्रौ भोजनं कन्दभक्षणम् ।

ये कुर्वन्ति वृथा तेषां तीर्थयात्रा जपस्तपः ॥

In the *Kasikhanda* we find—

मत्स्यमांसरतानां वै दूरं तिष्ठति शङ्करः ।

In the *Srimad Bhagvat*—

अहिंसालक्षणो धर्म्मो ह्यधर्म्मः प्राणिनां वधः ।

तस्माद्धर्मार्थिभिर्लोके कर्त्तव्या प्राणिनां दया ॥

In the later *smriti* works, animal food has been interdicted

आमिषं कलहं हिंसा वर्षवृद्धौ विवर्ज्जयेत् ।

भुङ्क्ते निरामिषं यस्तु पण्डितः परजन्मनि ॥

Tithyaditatvam.

मत्स्यांस्तु कामतो जग्ध्वा सोपवासस्त्र्यहं वसेत् ।

अज्ञानतः तदर्द्धनम् ॥

Prayascittaviveka.

Many religious books animadvert strongly upon meat as an article of diet—

मद्यमांसमधुत्यागी त्यक्तोदुम्बरपञ्चकः ।

निशाहारपरित्यक्त एतद् ब्राह्मणलक्षणम् ॥

Srimad Bhagavat.

रूढे मांसे मधुनि च नवनीते बहिर्गते ।

उत्पद्यन्ते विपद्यन्ते असंख्यातस्य जन्तवः ॥—*Sivadharma.*

The Govrata or the cow-rite which must be performed by a man who has killed a cow is thus described by Visnu.—

L. 16. Let a man serve cows for a month, his hair and beard having been shorn.

17. And let him sit down to rest when they rest ;

18. And let him stand still when they stand still.

19. And let him give assistance to a cow that has met with an accident (such as getting into a slough, or falling into a pit).

20. And let him preserve them from (the attacks of lions, and tigers and others) dangers.

21. Let him not seek shelter himself against cold (and hot winds) and similar dangers, without having previously protected the cows against them.

22. Let him wash himself with cow-urine (three times a day) ;

23. And let him subsist upon the (five) productions of a cow.

Visnu, Institutes of, XXIII.—

57. Cows are auspicious purifiers, upon cows depend the worlds.

58. Cows alone make sacrificial oblations possible (by producing sacrificial butter), cows take away every sin. The urine of cows, their dung, clarified butter, milk, sour milk, and *Gorochana* :

59. Those excellent productions of a cow are always propitious.

60. Scratching the back of a cow destroys all guilt, and giving her to eat procures exaltation in heaven.

Sacred Books of the East. Vol. VII, Trans. by Jolly. p. 105.

See p. 159. 167.

In the Artharva Veda, we find many hymns for the safety and glorification of kine—

II. 26. *Charm for prosperity of cattle*

1. Hither shall come the cattle which have strayed to a distance, whose companionship Vayu (the wind) enjoys ! (The cattle) whose structure of form Tvashtar knows, Savitar shall hold in place in this stable !

2 To this stable the cattle shall flow together, Brihaspati skilfully shall conduct them hither ! Sinivali shall conduct hither their van : do thou, O Anumati, hold them in place after they have arrived !

3. May the cattle, may the horses, and may the domestics flow together; may the increase of the grain flow together; I sacrifice with an oblation that causeth to flow together!

4. I pour together the milk of the cows, I pour together strength and sap with the ghee. Poured together shall be our heroes, constant shall be the cows with me, the owner of the cows!

5. I bring hither the milk of the cows, I have brought hither the sap of the grain. Brought hither are our heroes, brought hither to this house are our wives!

(Bloomfield, *Hymns of the Atharva Veda*. Pp. 142-143.)

III. 14. *Charm for the prosperity of cattle*

1. With a firmly founded stable, with wealth, with well-being, with the name of that which is born on a lucky day do we unite you (O cattle)!

2. May Aryaman unite you, may Pushan, Brihaspati, and Indra, the conqueror of booty, unite you! Do ye prosper my possessions!

3. Flocking together without fear, making ordure in this stable, holding honey fit for soma, free from disease, ye shall come hither!

4. Right here come, ye cows, and prosper here like the saka-bird! And right here do ye beget (your young)! May ye be in accord with me!

5. May your stable be auspicious to you, prosper ye like the Sari-birds and parrots! And right here do ye beget (your young)! With us do we unite you.

6. Attach yourselvs, O cows, to me as your possessor; may this stable here cause you to prosper! Upon you, growing mumerous, and living, may we, increasing in wealth, alive, attend! (Bloomfield. Pp. 143-144).

III. 28. Formula in expiation of the birth of twin calves. See P. 145.

IV. 38. Prayer to secure the return of calves that have strayed to a distance.

A. V., VI. 52.

For deliverance from unseen pests

1. The sun goes up from the sky, burning down in front the demons; he, the Aditya, from the mountains, seen of all, slayer of the unseen.

2. The kine have sat down in the stall ; the wild beasts have gone to rest (*ni-vic*) ; the waves of the streams, the unseen ones, have disappeared (*ni-lip*).

3. The life (*ayus*)-giving inspired (*viapaccit*) famous plant of Kanva, the all-healing one have I brought ; may it quench this man's unseen ones.

A. V., VI. 59.

For protection to cattle

1. To the draft oxen (do thou) first, to the milch kine (do thou) O Arundhati, to the non-milch cow, in order to vigor (*vayas*), to four-footed creatures do thou yield protection.

2. Let the herb, the Arundhati, allied with the gods (?), yield protection ; may it make the cow-stall rich in milk, and the men (*purusa*) free from disease (*yaksma*).

3. I appeal to the all-formed, well-portioned, vivifying one ; let it conduct the hurled missile of Rudra far away from our kine.

(Whitney.)

A. V., VI. 70.

To attach a cow to her calf

1. As flesh, as strong-drink, as dice on the gambling-board ; as of a lustful man the mind is fastned (*ni-han*) on a woman—so let thy mind, inviolable one (*aghanya*), be fastened on thy calf.

2. As the elephant strains foot with foot of the she-elephant, as of a lustful man etc., etc.

3. As the felloe (*Pradhi*), as the rim (*upadhi*), as the nave upon the fellœ ; as of a lustful man etc., etc.

See A.V. vi. 75 *Praise and prayer to kine*

vii. 55

A. V., VII. 73, 7.

Mayst thou verily be well proportioned, feeding at excellent meadows.

May the spotted milch-cow, well milking, with constant calf (viii, 104 ; ix, 4, 21) again flourish in India is the prayer of the author to God Divine (x. 9, 25)

A. V., XII. 4—5 : The cult of the holy cow is fully developed and described in detail.

IV. The necessity of giving away sterile cows to the Brahmans.

53. And if he roasts the sterile cow at home, whether he makes a sacrifice of her, or not, he sins against the gods and Brahmanas, and as a cheat falls from heaven.

The Result of the Vedic teaching :

We have quoted below the opinions of different authorities as to the effect of the teaching of the Vedas that cow is inviolable on Hindu race and other races.

Worms in the ox : "For India, the available data seems to show that tapeworm is indigenous principally in certain provinces of Upper India belonging to the Bombay Presidency and the N.W. Provinces, especially in the Deccan and the Punjub, ond to a less extent in the Lower Bengal, Madras, and the Southern districts ; but in the country the Hindu race, as we shall see presently, enjoy an almost complete immunity from the parasite, and it is practically the European residents and the flesh-eating Mahomedans who suffer from it. So far as it concerns the Mahomedan population we are justified in concluding that it is the *Taenia mediocanellata* which is found among them ; and the same would appear to be for the most part with the Europeans living in India, and particularly for the British troops in the Punjub, among whom tapeworm has been very often observed of late. The use of uncooked flesh, including even beef, by the troops in India had already been indicated by Hoile as the cause of the Tapeworm so often found among them. In a more recent paper attention is drawn to the increase of the disease especially in the Bombay Presidency and in the Punjub ; and in a subsequent notice relating to the same fact it is stated, ' the prevalence of tapeworm in the regiments in the Punjub has been recently shown to depend upon the consumption of beef infected with the *Taenia mediocanellata*".

Hirsch (Vol. 11. p. 282) says : "The somewhat rare occurrence of *T. armata* compared with *T. saginala* in Asia and Africa depends essentially on the fact that the use of pork is much restricted, either on religious grounds, as among orthodox Mahomedans, or from prejudice against it, as in Abyssinia and among the natives of South Africa (as well as in Iceland); and that it is mostly among the European residents that it obtains. Again, the immunity enjoyed by the particular races, such as the

Egyptians, the Hindus, the Malayas and others, is a consequence of their almost exclusive vegetable diet, an infection by *cysticercus* being a rare occurrence.

In India, says Chipperfield, tapeworm is, on the whole, rare among nationalities other than the European. Waring's opinion though less absolute, is to the same effect; Tapeworm is confined exclusively to the flesh-eating Mussalman or the omnivorous European soldier". In Travancore, a purely Hindu state, he had not seen a single case of *taenia* during a six years' residence. Dr. Sperschneider, who served eight years as surgeon to the Nair Brigade (a division of 1800 men composed entirely of pure caste Nair or Sudras) had likewise seen no case of tapeworm ; and the official returns from the Travancore Circar during twenty years are to the same effect. Of 95 cases of *taenia* which Anderson observed in Upper India, 86 occurred in European soldiers, 8 in Moslems, and a single case in a Hindu belonging to one of the lower castes which did not restrict itself to a purely vegetable diet. Huillet also states that in Pondichery he had seen tapeworms only in Europeans."

Leuckart (Pp. 472-3) writes : "The bladder-worm is especially common in the Punjub, where in 1869 no less than 768 out of 13,800 cattle were infected (Cunningham), while in the previous year the percentage was even greater (6·12 per cent. instead of 5.52). Fleming mentions that during the six years of his service there he hardly ever saw an ox or a cow that was not infected with bladder worms, although they were to the muscles. Nor were they only found separately, but sometimes in such numbers that Lewis counted in a pound of flesh no fewer than 3000 living Cysticerci. The flesh was taken from the psoas muscle, for which and for the glutei the bladder-worm seem, according to the Indian-experience, to have a special preference. The parasites were also often gathered together in larger or smaller numbers at the root of the tongue, in which position some of them attained a length of almost an inch.

This very frequent occurrence is accounted for when we learn from the above mentioned sources that the Indian oxen are not nearly so exclusive in the choice of their food as our European horned cattle, which are better kept and in cleaner stalls. Fleming has himself seen oxen and sheep as well as pigs, devouring human excreta with great satisfaction. As the principal seats of the infection he rightly regards the dirty pools and sloughs in the neighbourhood of the Indian villages, where the manure of the district is collected, and along with it the eggs and joints of the universally distributed tape-worms. These are afterwards still more dispersed by the rain, and carried into the cisterns, the contents of which are always polluted with excreta, so that the animals are infected by drinking as well as by grazing."

In Asia, we find a similar distribution and frequency. From the above-mentioned reports of the English army surgeons, there can be no doubt as to its occurrence in India, although no express mention is made of it. It is particularly the Mussalman population of the Punjab that suffers from it, and especially in the lower classes, who have a custom of eating half-done beef; and in the English regiments stationed there, *Taenia saginata* is of frequent occurrence, in as much as some of the soldiers adopt the same practice. In one case the disease broke out three months after the march, and not in a few, but in from fifteen to twenty cases, after two years' residence, about a third part of the soldiers were infected with the tape-worm. Only the officers, whose food consisted principally of mutton, which is also prepared in a cleaner and more careful way, are as a rule exempt. The Hindus are still more free from it, since they live entirely upon vegetables." (Leuckart, Pp. 477-8).

Thus we find that the prejudices of the Hindus against beef rest upon a scientific basis of truth. "I cannot say" says Dubois (in his '*Description of the character, Manners and Customs of the People of India*') "see for my part what the Europeans would have lost by abstaining, in tenderness to the prejudices of the people, from the flesh of the cow; which in hot climates is but an insipid and unwholesome food." "The ancient sages," says Chevers, "who made the eating of grass-fed beef and measly pork a breach of religion of the Hindoos and Mahamedans were clearly masters in sanitary science" (*The diseases of India* p. 18). He continues "I have never questioned that it would have been better for many of us if we had gone to Indian vegetarians and teetotalers, and had always adhered to those practices" (*Ibid* p. 21).

We think it is not unknown that prime and efficient cattle are promiscuously slaughtered throughout British India, irrespective of their usefulness as milch and agricultural animals. Isa Tweed has observed, "I have said it is a great loss to the country and a crime to allow good milk cows to go to the bucher...... The Government and the Municipalities should step in to prevent good cows being slaughtered." History bears testimony to the fact that Babar, Humayun, Akbar and some other Mohamedan rulers promulgated rules forbidding the slaughter of cows but the unrestricted slaughter of cattle under British rule has so much reduced their quality and number that the state of milk supply and tillage has become extremly deplorable. Even high Government officials of different provinces have condemned the present practice of indiscriminate slaughter and have recommended legislation for its regulation; but it is a pity that sufficient attention has not been paid to this vital problem either by the Government or by the public.

Co-operative Insurance of cattle—The most valuable articles of an agriculturist consist in his cattle. Instances are common where the entire live-stock of a village are carried away by rinderpest, foot and mouth disease and other epidemic diseases. Individual cultivators are not in a position to make adequate provision against such unforsen catastrophies, and it is therefore necessary that the risk should be spread over as large a number of cultivators as possible, and worked by a central organisation. There are some co-operative Cattle Insurance Societies in Burma which are reported to be working satisfactorily, but as yet no serious attempt has been made in this direction in Bengal. Agricultural Insurance Societies in Germany have proved quite successful. In Denmark, there are agricultural insurance societies of different kinds, *e.g.*, general insurance of stallion horses, breeding bulls, etc., specific insurance against foot and mouth disease, and insurance against damage or loss of crops.

(*Calcutta Rev.*, Feb. 1926, P. 316).

Waring, in his "*Notes on some of the principal Indigenous Anthelmintics of India*" *writes*: "The proportion of the kinds of worms met with, presents wide differences. Taenia or Tape-worm, amongst the Hindoos, is extremely rare. During the six years, I have resided in Travancore, a pure Hindoo state, I have not seen a single case; Dr. J. Sperschneider informs me that; during the eight years he has had charge of Nair Brigade (1300 strong, and all men of one caste, Nairs or Sudras) no case has fallen under his observation, and some of the dressers of the Travancore Sircar, during twenty years' practice never even witnessed a single example; whilst it may be remarked, cases of lumbrici are of very frequent occurrence. Taenia or Tapeworm is confined exclusively to the flesh-eating Mussulman, or the ominivorous European soldiers. Of 95 cases of Taenia mentioned by Dr. Anderson, in which Kamila was employed in Upper India (*Indian Annals of Med. Sc.* vol. iii, p. 87). 86 occurred in European soldiers, 8 in Mussulmans and I in a Hindoo or Mehter of the lowest caste, who did not restrict himself to a vegetable diet. This is not the place to enter on the Physiological History of these entozoa, but it is evident, from facts constantly observed in India, that a very close connection exists between animal food taken habitually, and the existence of taenia, and also between farinacious food, especially raw and uncooked vegetables, and the existence of lumbrici. The Abyssinians are well known to be almonst purely carnivorous; and amongst them tape-worm is a sort of national disease; and butchers in England who are per excellence, beef-eaters, are said to be peculiarly liable to tape-worm. The *Ascaris vermicularis*, the thread or maw worm, is not ordinarily met with amongst any of the classes of people in India, unless associated with a generally depraved state of the constitution, or in those of the lowest castes and filthy habits. Examples of them are comparatively rare." (*An. Ind. Med. Sc.* 1859. July. p. 372).

"There is, however, greater danger in the use of pork than of any other kind of meat, since, so far as is known, it is more frequently diseased, and the nature of the disease is so such as to be very injurious to man. Thus measly pork,—a disease consisting of cystocerci as large as hemp-seed—is known to have produced fatal results to many of those who have incautiously eaten it, and although the characteristics of the disease may be recognised by those who understand it, they are neither known nor observed by the great majority of the poor classes. Further, the terrible pest of the small worm, called the *Trichina spiral*, is much more frequent in this than in other kinds of flesh in its uncooked state, and the power which the creature has to penetrate the tissues of the body of those who eat it has been vividly described by German and American writers.

E Smith—*Foods*: 3rd Edition. P. 62.

"Taenia Solium and T. Meniccanellata are only too common in India, and are represented in the Calcutta Medical College Museum. Peot writing from Bombay experience, says that tape worm in India is chiefly met with in Europeans, Parsees, Mahomedans, and those Hindoos who make use of animal food. In the Hindoos who abstain from animal food, it is very rare, if it ever occurs. I do not recollect to have seen tape-worm in a Bengal native of any caste, but it is very common amongst the Mussulman population of the Punjab, the lower classes of whom are in the regular habit of eating half-cooked.beef—indeed prefer it so. In the four years ending 1883, the returns show only 17, 18, 19 and 24 admissions for tape-worm in our native army; and only 23, 28, 21 and 22 in the jails. I attribute their considerable immunity from this pest to the fact that flesh-eating native soldiers and prisoners take their food well-cooked. Now and then, the corner of a soldier's kiwab may happen to be swallowed under-done.

Macpherson showed that, in the European army of Bengal, during the four years ending 1853-54, there were, in soldiers, 339 cases of worms, including tape-worm, or 2·5 per cent, of,strength; in officers, 5 cases; in women and children, 10 in each. He adds that many cases in children must have been overlooked. In the four years ending 1883, the admissions were for tape-worm: European women, 5.7,6,15; children, 20, 17, 18, 32; European soldires, 161, 308, 262, 278; figures which contrast strongly with the tape-worm statistics of native soldires and prisoners.

Waring met with but one case of tape-worm in Burmah; and an intelligent assistant who had been attached to the local hospitais for nearly fourteen years informed him that he had only once seen a case in Mergui.

Whenever I discovered that a patient had tape-worm, I used to say to him, "How did you get into the habit of eating raw meat?" The surprise excited by this question by a stranger was generally great, but the habit was always admitted. I gave full trial to turpentine, kousso, and kameyla. I agree with Dr. Cobbold in giving the preference to oil of male fern, which, of late years, was my only remedy. I found terpentine very efficacious.

CYSTICERCUS—Some years ago, when travelling, I lodged for sometime at one of the largest establishments for "taking in and doing for" wanderers in the world. A plate of measly ham was brought to me. I asked for slices from another joint; these were in the same condition. Having repeated this experiment for a day or two, I advised a professional brother, who sat at the same table, to call for ham from more than one joint andto examine it closely. He at once found that it was diseased meat. I then spoke to my hosts, and, an inquiry being instituted, several uncooked hams were cut, and all were found to be absolutely measly.' The oldest servant in the place declared that he had carved their hams for twenty years, had always found them full of white spots, and had always believed that good hams ought to be thus spotted. In those twenty years, at least thousands of unfortunate persons, who considered themselves well-to-do, must have battened upon these abominable hams.

TAENIA ECHINOCOCCUS—We have some valuable remarks on the prevalence of this parasite in cattle and sheep slaughtered for food in the Punjab and hydatid cysts and tropical abscess. In the middle of 1869, Dr. J. Fleming called attention to the fact that, from a return by the executive commissariat officer (Meen Meer?), 2, 651 cattle were slaughtered in the year 1868 for the use of troops and of this number 235 were found cyst-infested, and were condemend, showing a percentage of 8·86. In the years 1866 and 1867, the cattle were shown to have been quite free from cysts. In January and Feburary 1869, 464 cattle were found to be cyst-infested. While Dr. J. Cleghorn was at Mooltan in 1868, several large cysts, taken from the liver of a cow, were brought to him by a Medical friend.. On examining their contents under the microscope beautiful specimens of the scolices of *taenia echinococcus* were discovered.

He was informed that these cysts were of frequent occurrence in the internal organs, especially the liver and lungs, of the cattle slaughtered in the commissariat yard. He readily obtained permission to inspect the carcasses while they were being cleaned, and, after several months' observation, he found that these cysts were very commonly present. In nine consecutive days, during which 45 cattle were slaughtered, 28 of these were affected with cysts; in one half of these the liver alone was the seat of disease; in 12 both the liver and lungs; in 1 the spleen, and in another the kidney only. Frequent examination detected the presence of scolices in these cysts, and several specimens that were forwarded to Dr. Joseph Ewart, who was then Professor of Pathology in the Calcutta Medical College, were pronounced by him to be hydatids of taenia echinococcus. Dr. Cleghorn communicated with commissariat officers in several other stations and they all agreed in stating that the "watery bags" were very common in cattle throughout the Punjab; but little attention had been paid to them, as they were considered to be mere "watery bags" and perfectly harmless. In 899 cattle slaughtered during fifteen months cysts were found in the liver in 829, and in 726 in the lungs. The great majority of these cases were affected in both the liver and the lungs. In a few the kidneys were affected, and in a less number the spleen.

A most interesting review of this subject has been given by Dr. Aitken who found in a sample of beef sent to him from Meen Meer as many as 100 "measle" cysts in the pound of flesh. The medical officer who sent it wrote that he had found as many as 300 in the pound of ration flesh. Dr. Aitken gives an abstract of the report submitted in 1870 by the late Dr. Oliver, R.A., who was specially appointed to enquire into the prevalence of cysticercus in the ration beef at Jullundur, which leaves no doubt that both the grazing grounds of the cantonments and the dirty water of a tank there were plentiful sources of tape-worm ova.

Dr. Aitken's observation (at p. 208 et seq.) upon the practicability and necessity of stamping out the tape-worm infection which as we have seen, prevailed at least up to 1883—three years after the publication of the seventh edition of his work—are most just and forcible, as showing the necessity for careful feeding and watering of the cattle and as throwing strong doubt upon the efficacy of boiling cyst-infested meat; seeing that, although the boiling temperature of 212°Fahr. may be sufficient to destory the vitality of these cysts, the boiling point is not the temperature at which meat is usually cooked so as to retain the nutritive juices within it; 158° to 170° Fhr. being about the usual range of temperature at which meat is cooked in perfection, so as not to be hard or shrunken.

(Cheevers—*Diseases of India*, Pp. 26-29.)

STERILITY IN AYURVEDA

BY

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(Continued from our last issue.)

The diseases of the organs of generation, spoken of by various authors, are seen to confound the symptoms of one with the name of another. New names have been introduced, and new symptoms attached to original names of the class.

		Sushruta.	Madhava.	Charaka	Vagbhata.	Sarangadhara.	Basavarajeeyam.
Vataja	1	Udavarta	Udavarta	Udavartini	Udavarata	Sushka	Udavarta
	2	Vandhya	Vandhya	Upapluta	Upapluta	Upapluta	Vandhya
	3	Vipluta	Vipluta	Antarmukhi	Vipluta	Vipluta	Vipluta
	4	Paripluta	Paripluta	Paripluta	Paripluta	Paripluta	Paripluta
	5	Vatala	Vatala	Vataki	Vataki	Vataja	Vatala
Pittaja.	6	Ruchirakshra	Lohitakshya	Arajaska	Lohitakhshara	Raktakhaya	Raktakhaya
	7	Vamini	Vamini	Vamini	Vamini	Vamini	Vamini
	8	Sramsini	Sramsini	Rakta yoni	Raktayoni	Raktaja	Sramsini
	9	Putraghni	Putraghni	Putraghni	Jatagni	Jataghni	Putraghni
	10	Pittala	Pittala	Paittiki	Pittala	Pittala	Pittala
Kaphaja.	11	Atyananda	Atyananda	Sushki	Sushka	Nanda	Atyananda
	12	Karnini	Karinini	Karnini	Karnini	Karnini	Karnika
	13	Acharana	Acharana	Acharana	Antarmukhi	Antarmukhi	Charana
	14	Aticharana	Aticharana	Aticharana	Aticharana	Aticharana	Aticharana
	15	Sleshmika	Sleshmika	Sleshmaki	Sleshmaki	Kaphaja	Sleshmala
Sannipathaja	16	Shandi	Shandi	Shandayoni	Shandayoni	Shandita	Shandini
	17	Phalini	Andalinitr	Prakcharana	Prakcharana	Prakcharana	Andini
	18	Mahati	Mahatiki	Mahayoni	Mahayoni	Mahayoni	Mahayoni
	19	Suchivaktra	Suchiva	Suchimughi	Suchimukhi	Suchimukhi	Suchivakta
	20	Sarvaja	Sarvaja	Sannipataki	Sannipataki	Sannipata	Sannipataki

Vatala—

Causes :—Sleeping on an uneven ground, excessive indulgence in sexual congress, vitiated semen, owing to these Vata gets deranged. (*Vagbhata.*)

Of a woman in whose constitution the Vata predominates, and who indulges in food and exertion that are provocative of Vata, the Vata becoming aggravated enters the yoni. (*Charaka*).

Symptoms :—Pain and Sula, stiffness of the organ ; sound, discharges of red and black blood take place with excessive pain. (*Vagbhata.*)

The Vulva has menses accompanied by sound, pain and froth, and thin and unvily in character. (*Charaka.*)

Udavarta—

Causes :—In consequence of the suppression of urgings of nature, Vata becomes provoked and overwhelms the organ, causes retention and diverts the menstrual flow upwards.

Symptoms :—The woman with great pain discharges her obstructed flow. But when it is discharged, the woman gets immediate relief.

Vandhya :—Yoni is marked by the absence or suppression of the catamenial flow. (*Sushruta.*)

Charaka reads this as *Sushka.*

Even if she receives the Vital seed she does not conceive. Of a woman, who supresses sneezing, eructations, the urgings of stools and urine during the time of sexual congress, the provoked Vata produces retention of stool and urine, it also makes the organ dry. Such a one is incapable of conception.

Vipluta—A local pain is always complained of in a Vipluta Yoni (Sushruta). Madhava concurs with Sushruta.

In consequence of a woman's neglect to wash her organ properly worms are generated which cause a sensation of ich, and she always likes sexual intercourse (*Bagbhata*).

Charaka reads this as *Acharana.*

Paripluta—A woman in whose constitution the bile predominates, by supressing sneezing and eructations during coitus has the Vata overwhelmed by the Pitta, which vitiates her organ.

The organ becomes swollen, and tender to the touch. Bloody discharges take place from her organ accompanied by pain, and they are either blue or yellow in colour. Pain appears also in the groins and the back. Fever, diarrhoea, disgust for food also manifest.

Charaka also reads same as Bagbhata.

Sushruta reads this as Dysperunia.

Madhava also reads this as Dysperunia.

Causes :—

Pittala—By indulgence in food and drink that are saline, acrid, sour, or saline, Pitta born diseases afflict the organ of generation.

Symptoms—The organ vitiated by Pitta becomes afflicted with burning, suppuration, fever, and heat. The menstrual flow becomes blue or yellow or white in colour. Hot discharges take place, the smell of which is like that of a corpse.

Charaka agrees with Vagbhata.

Madhava and Sushruta also read this as Vagbhata.

Lohitakshya—By vitiated *vata and rakta*, the catamenia of a woman gets exhausted. Burning sensation in the organ, stiffness and discolouration of the organ takes place. (*Vagbhata*)

Owing to the excessive flow of catamenia, burning sensation takes place in the organ, hence the ovum gets exhausted.

(*Madhava*)

Discharges of the menses with a burning sensation in the passage is the charecteristic symptom of *Lohitakshara* or *Rudhiraxshara*. (*Sushruta*.)

If Pitta be located in both the organ and the womb it vitiates the catamenia. Such a valva is called *Arajaska* (Wanting in menses). Emaciation and discoloration also set in. (*Charaka*).

Vamini—Once a woman takes a bath after menstruation, then again on the sixth or seventh day menstruates with or without pain. This is called Vamini. (*Vagbhata*.)

The yoni, from which the semen charged with the menstrual blood is ejected with Vayu, is called Vamini. (*Sushruta*).

Madhava reads same as Shshruta.

The organ which discharges on the sixth or the seventh day after receiving the semen, the semen which went into the uterus mixed or unmixed with ovum, is called vamini. (*Charaka*)

Sramsini—Vagbhata reads this as *Raktayoni*—Excessevie flow of menstrual blood from the organ. By indulgence in food and drink as create Rakta-Pitta (Hæmorrhage) blood of woman becomes vitiated by Pitta. A copious discharge of blood takes place. Further, even if she receives the vital seed she does not conceive. This is known as *Raktayoni or Apraja.* (*Charaka*)

The coming out of the organ when disturbed and a difficult or painful parturition are the symptoms of *Brasramsini yoni.* (*Sushruta.*)

Madhava reads same as Vagbhata

(Sushruta's reading is quite different.)

Putraghni—When through dryness, Vata repeatedly destroys the foetus; born of vitiated blood, as soon as conceived in the womb, the vulva is known as *Putraghni* (*Charaka*)

Vagbhata calls this as *Jataghni.*

Sleshmika—If Kapha, aggravated by food and drink possessed of insipient virtues, vitiates the generative organ of woman, the effects produced are that the organ becomes cold, slimy, itchy and painful. The complexion also of the Vulva becomes pale and the organ has discharges of menstrual fluids pale and slimy.

Atyananda—Yoni affected by this disease knows no satisfaction in matters of sexual intercouse (*Sushruta*).

There is no mention of this disease in Charaka and Vagbhata.

Karnini—Of a woman who makes efforts for evacuating nature's call, before the proper time, Vata encased by womb combining with the Kapha and the blood generates circular swellings in the inner surface of the organ.

Acharana—A woman having the disease Acharana, while indulging in sexual congress, becomes satisfied before the man. (*Madhava*).

In an Acharana Yoni a greater quantity of ovum is secreted before the completion of sexual act. (*Sushruta*)

In consequence of a woman's neglect to properly wash her organ, worms are generated which cause a sensation of itching. Such a woman's organ is called Acharana (unfit for coitus) and in consequence of itching the woman becomes very much desirous of the companionship of new males. (*Charaka*)

(Readings are quite different and no mention of the name in Vagbhata and symptoms of Charaka correspond with Vipluta of Vagbhata.)

Aticharana—Here a woman while indulging in sexual congress is not satisfied even if the man finishes the sexual act. (*Madhava*)

In an Aticharana yoni the semen is not retained in consequence of over indulgence, (*Sushruta*).

By excessive indulgence in sexual union swellings of the organ takes place hence it is called Aticharana. (*Vagbhata*).

Here Charaka's reading corresponds with that of Vagbhata.

Shandi (*Eunuch*)—The yoni of a woman, marked by the non-appearance of menses, non-development of her breasts and the roughness of the vagina which is felt at the time of coition is called *Shandi* (*Sushruta*).

That woman, who through the fault of the seed of which she is born, has her own womb afflicted by the provoked Vata in the womb of her mother, becomes averse to the companionship of males. The breasts are not developed. Such an organ is called *Shandi* and such a case is incurable. (*Vagbhata*)

Charaka reads same as Vagbhata.

अतोपुरुषवद्यापि प्रवर्त्ततेऽङ्गनायदि ।
ततकन्यायदिभवेत् सा भवेन्नरचेष्टिता ॥

(*Sushruta Sareera*)

A daughter born of a woman, riding on her husband during the act of sexual congress, will develop masculine traits.

Phalini—Through indulgence in sexual congress before she is competent for it by age, Vata, becoming excited, vitiates the organ, causes pain in the organ, the waist, the thighs and the groins; this is called *Prakcharana* (*Charaka*).

A woman of tender years, who has just passed her girlhood, when ravished by a man with an abnormally developed genital organ (Penis) offers the illustration of *Phalini* Yoni. (*Sushruta*)

Madhava names this as *Andali*. Sushruta says that the cause of this disease is one of the chief general causes of all the diseases of Yoni.

Mohayoni—An extremly dilated vagina is called Mahayoni.

(*Sushruta*)

Causes—In consequence of excessive indulgence in sexual intercourse while lying on an uneven bed, vata becomes provoked, and causes the obstruction and stupefaction of both the womb and the vagina.

Symptoms—The organ with its mouth contracted, becomes afflicated with pain, and becomes dry or rough, and the menstrual blood that is discharged is accompained by booth. The organ becomes fleshy, fleshless and pains appear in her bone joints and gronis. This is called Mahayoni. (*Charaka*)

Suchivaktra—Through dryness the vata vitiating the organ of woman, when in the mother's womb in embroyonic condition due to their mother's fault, causes the mouth of her organ narrow like the eye of a needle. Such an organ is called *Suchimukhi.*

(*Charaka*)

Sarvaga—Of a woman who takes food and drink of all rasas, the three doshas which are located in the organ are vitiated and manifest their respective symptoms.

Antarmukhi—If a woman having stuffed her stomach with food indulges in sexual union lying in an improper attitude the vata provokes and locates in the uterine ducts. The bones and flesh of the organ become afflicted with pain, hence indiffrent to sexual intercourse, and is known as *Antarmukhi.* (*Charaka*)

This can be seen only in Charaka and Vaghbhata, while not mentioned by the other authors.

Upapluta—Of a pregnant woman, who indulges in food, drink and practices which aggravate Kapha, as also through suppression of breath, and vomiting, vata becomes aggravated, drives the kapha into her organ and vitiates it. Discharges that are of pale colour and accompanied by pains as if pierced with needles, or white or phlegmatous, afflicted by ailments due to kapha and vata take place and the organ is called *upapluta.*

Through all the above twenty diseases, the organs of generation of females are unable to hold the semen, hence these women never conceive. On the other hand they catch many diseases such as gulma, Arsa, Pradara, and other female diseases.

From all the above reasons it can be said that when any couple do not beget children, then there must be present any one or two of the above faults.

To be continued.

ABSCESS OF THE LEFT BREAST (Acute Mastitis)

BY

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Clinical History :—Mrs. Indirabai, age 20, Brahmin. A few months back *i.e.* on 5/10/27 at the beginning of the 8th month, I found the patient's both legs swollen, dispnea, and difficulty of passing urine. The following mixture was given :—

R/	Ushirasav	2 oz.
	Dashmularista	1 oz.
	Syrup of Khus	½ oz.
Mix.	Shilajatu	30 grs.

To be given at the interval of 2 hours. During the course of this treatment of four days, patient passed her urine freely, swelling slightly reduced, and so the same mixture was continued for a fortnight. I did not get any report upto 5/1/28. The patient again appeared on 5/1/1928.

The history related by the patient :—The delivery took place in Hospital for a long time owing to the Patient's general debility. She delivered a good, healthy child after 8 hours from commencing the labour. 12 days after, patient came to me. 3 or 4 days passed in good condition. Afterwards she began to complain pain in the left breast near the nipple, temperature increased 99 to 100°. A local allopathic practitioner was consulted who told the pain must be due to accumulation of dearranged milk, and so it must be taken out with the aid of the breast pump. The breast was very painful. Dococtor tried the breast pump but no drop of milk came out, in return it became more inflamed. Then he advised the relatives to take the patient to the Hospital to get her operated. The relatives feared and called me afterwards. I examined the patient thoroughly and told that it was a case of cold-abscess, Ayurvedically, Kafa-pithaja-abscess. There was no temperature, left breast swollen, pains severe when touched, constipation severe, loss of appetite and sleeplessness for the last 4 days. I gave the mixture for four days with external application.

Morning—Harital Bhasma, 1½ grain with honey. At 2 p.m. and 6 p.m. :—

Mixture Vidangarista ...	4 oz.
Kharjurasav	4 oz.
Mix. Mrigashrang Bhasma ...	20 gr.

and external application of Dashang lepa with onion mixed. At bed time, Sinhanad gugul for motion.

During the four days' time, patient got servere chill and the breast began to show the signs of suppuration ; 11/1/28, Abscess burst, with a pea-shaped hole, and pus began to come gradually. 15/1/28, the watery discharge with few pus-particles. The same treatment was continued. Jatyadi Tailam was given (an antiseptic) to heal the wound, and to take out the remaining discharge. Jatyadi Ghritam or Tailam is a most powerful antiseptic healing oil. Trifala lotion is superior to all these present H. P. lotions. The wound was first washed with Trifala lotion and after cleaning it, it was dressed with the cotton soaked in this oil.

With only this treatment the patient was completely cured on 21/1/28.

According to Allopathic science it was a pure surgical case, and I am quite sure that it would not have been cured so rapidly.

The readers of this Journal will try all sorts of abscesses successfully with this treatment. I will give next time a successful case of typhoid fever.

Health & Hygiene.

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THE ART OF SELF-DOCTORING

Why the Science of Naturopathy to be Preferred

Presiding over the All-India Naturopathic Conference held in Calcutta on December 25th, 1927, Mr. R. C. Chatterjee said in course of his speech—

"First let us see what Naturopathy is. According to the Hindu idea inculcated in us, Nature is clearly the manifestation of God—through the five primordial elements viz, Earth, Water Heat, Air and Ether. Earth is our godly mother 'Dharitri' or 'Basundhara' ; Water is 'Ap' or Narayana ; Heat is 'Agni' or 'Suryya' ; Air or 'Bayu' is the God 'Pabana' and Ether is 'Akasham' or Infinity ;—the last being the fountain head from which arise all the other elements.

So Naturopathy or the taking aid of Nature in the matter of preservation of health, in preventing the approach of diseases, and in curing the same when attacked by them, is the observance of godliness pure and simple in all our ways of living :—in eating and fasting, in bathing and drinking, in working and warming, in breathing and cooling, and lastly in resting and fasting.

So nature treatment means treatment with the aid of the five elements viz Kshiti, Ap, Tej, Marut, Vyom—*i.e.* the prime materials out of which this whole universe is made. There are some Naturopaths who depend upon diet-cure only, some on water-cure alone, some on air only in the shape of breathing exercises, some on heat-cure, and others on fasting cure. In my opinion, we cannot dispense with any one of these elements. We are indebted to one and all of these five elements—for our living, moving and being what we are. I think nothing in my humble address to you would interest you so much as my personal history in the field of Naturopathy. So first let me tell you—

THE ART OF SELF-DOCTORING

Of all the pathies in vogue, it is Naturopathy alone which makes it possible for each man to be his own doctor. It preaches, and preaches very rightly, the doctrine of the unity of diseases and unity of treatments —meaning to say that all diseases arise from one and the same cause *viz.* concentration of abnormal heat in the abdomen due to fermentation taking place, which in turn is due to the intake of wrong food or excessive food. It is the four baths *viz.*, Hipbath (including mud-bath and perspiration baths) that being properly and judiciously applied along with natural diet are the panacea for cure of all diseases and such baths can be very easily availed of even by the laymen without any knowledge of Anatomy or Physiology. So much is the popularity of Dr. L. Kuhne's 'New Science of Healing' that it has already been translated into as many as thirtyseven languages and it is being translated into Bengali and published in the "Swabhaber Pathe" and widely read with the greatest benefit by the people all the world over.

THE NECESSITY OF NATUROPATHIC CONFERENCES

Besides the biggest conference *viz.* The Indian National Congress, there will be sittings of various other conferences along with it in Madras this year. Out of all these various Conferences, ours is the nearest to the problem of national well-being. This is the Fourth Annual Session of the All India Naturopathic Conference. The subject matter of this Conference is such a thing of vital importance, and universal usefulness that its utility can never be overestimated. It is an art which teaches us the secrect of healthy living and self-doctoring. As we ourselves take care of our purse, our clothes, our chattels or anything else that is considered valuable, by protecting them from being stolen or robbed, so too we should ourselves take charge of our bodily health. To that end, we should equip ourselves with such a knowledge about the treatment of human ailments as will enable us to take care of the most valuable possession in life *viz* health, without which any other possession is of no consequence. So there runs the popular proverb—'Health is wealth, Health is happiness. Health is all in all.' Naturopathy teaches us how to preserve the best of all human possessions *viz.* health with the aid of a method which is most efficacious and at the same time least expensive. From the economic point of view as well as from the point of view of utility *i.e.*, greatest good of the greatest number, Naturopathy as a mode of treatment, always reigns supreme, and no other pathy can claim to be equal to it. Its simplicity of application has done away with the puzzling problem of diagnosis. It is unique and unrivalled in its merits. It enables even a layman to be his own doctor. There can be no mistake of diagnosis in its sphere and so there is no possibility of any danger for wrong diagnosis. It has already saved thousands of families from the heavy bills of doctors and medicines It has similarly saved my family for the last five years. And I am as sure, as the sun rises in the east, that it will do the same service to any body and every body that would care to take it up in right earnest. Simply a judicious use of the five elements *viz.* Earth, Water, Heat, Air and Ether, together with a non-stimulating natural diet has cured and is always competent to cure most remarkably and most successfully every case of ailment that human flesh is heir to. The same five elements are always at the command of every individual—high and low, rich and poor. They are always available for the seeking. Those who are still hesitating should take the courage of conviction from those who are already following. First give the method a trial for yourself personally and then for your family, friends and relatives. In Naturopathy the number of successes far outbalances the number of failures. Once a votary, always a votary Once you resign yourself to Nature, as your doctor, you will never think of leaving Her. The Naturopathic Association, and for the matter of that, the Naturopathic Conference have come into existence to bring home to the minds of all people the marvellous efficacy of Nature Cure. Its high aim is to save a dying race from the ravages of all sorts of diseases, from the use of poisonous drugs, which are swallowed under the names of medicine, and from the enormous waste of money that such drugs mean.

SUPERIOR CLAIM OF NATUROPATHY

Now let me just put in a nut-shell the reasons why Naturopathy should be universally adopted in preference to other pathies :—

1. Because it is the system which can be adopted by any body and every body without the knowledge of intricacies of Anatomy or Physiology.

2. Because it is the system which is the cheapest, safest, surest and in a word the best

3. Because it teaches people the unity of diseases and unity of treatments and thus dispenses with the ceremony of Diagnosis. Whatever be the nature of ailment, people may be suffering from, it is always the same live natural remedies together with a natural non-stimulating diet suitable to the patients that are needed for a cure.

4. Because its efficacy has been tested beyond all shadow of doubt, almost all over the world ;

5. Because it is not at all a quackery but the only system of treatment based on sound scientific principles, whereas medicine is quackery pure and simple.

6. Because it is a system which succeeds most wonderfully curing many cases of illness that have been declared incurable by the practitioners of other pathies.

7. Because it is a system which prevents and cures diseases by one and the same method, whereas the medical system goes on the false belief that "what ruins health must cure disease."

8. Because it is the system that can be followed with sucess without the dangers of wrong diagnosis.

9. Because it is a panacea for ailments in so far as it is capable of curing all diseases alike—no separate medicine being required for separate diseases—as in other pathies.

Such is the beneficial effect of communion with Nature for which Bhartrihari as a strict follower of Naturism—shows how this communion with the five elements, besides, being the means of good health, is also the means of attaining the great enlightenment or "Tattajnan" that makes the soul free from the fetters of this world.

Reports of Societies, etc.

——:o.——

THE REPORT ON THE WORKING OF THE SALEM MUNICIPAL SIDDHA DISPENSARY FOR THE PERIOD FROM 27-1-27 TO 27-1-28.

K. R. Minakshisundaram, A.M.A C., Bhishagwara, Physician in charge, The Municipal Siddha Dispensary said :—

MR. PRESIDENT, LADIES AND GENTLEMEN,

I heartily thank you all for your kind response to my invitation and welcome you all here this evening for the function.

I have much pleasure to present before you the report of the working of this institution for a period of one year from 27-1-27 to 27-1-1928. Please allow me, Sirs, to say a few words about the Indigenous Systems of medicine before I go to the subject proper. The works of "Charaka and Susrutha," are the most important and ancient Literature on medicine. They deal with surgery, midwifery, Hygiene and medical ethics, etc,

" Susrutha describes more than one hundred surgical instruments made of steel. He says that they should have good handles and firm joints, that they should be well polished and sharp enough to divide even a hair. They are described to be of various shapes and they correspond to the modern instruments Scalpels, Bistouries, Lancets, Scarifiers, Sawsbones, Nippers, Scissors, Trocers, and Needles, Blunt-hooks, Loops, Catheters, Syringes, etc.

The ancient Hindus knew to prepare Sulphuric Acid, Nitric, and the Oxides of copper, Zinc, Iron etc. They knew to prepare Caustic Alakalies from the ashes of Plants, at a very early age. Mercury compounds were used as tonic and Aphrodisic. I may with pride tell you that it was the Hindus that introduced mercury in medicine, many centuries before the Western system knew its value medicinally.

In Southern India there was a system of medical treatment known as Siddhic Treatment started by Agasthia, Bogar, Pulipani, Yahob, Gorrakkar, and others. The Tamil medical literature is made up of over one hundred and fifty books, both manuscript and printed. They have written on medicine, Chemistry, Taxicolgy, Astronomy, etc, which are mostly in common use.

Bogar in one of his works describes the construction of an Ahaya Viman, the modern Aeropline. Siddhas *i.e.* the persons who attained siddhi the originators of the system are also the authors of Yoga Sastras.

This system was in vogue in Southern India, and it was very much supported by the Tamil Kings of those times. They established a large number of Hospitals in their Territories. For Example, an edict dated 1067 A.D. by Virachola, Maharaja of Chola Desa recently deciphered by the Madras Ephigraphy Office, shows the grant of funds for a Hospital containing fifteen beds for the use of the students of the college attached to the temple of Venkhateswara in the village of Thirumakkudal, Chingulpet Dt. At about the same time a gift deed of Ganapathy Dev of the Kakatiya family as seen from a stone edict at Malakpuram, Guntur District shows us the grant of 40 acres of land for a maternity Hospital in the 11th century A. D. All these clearly show the greatness of the system and the broad usage it was in and also the patronage it had from the Government. It had been in vogue throughout for many centuries. The advent of Foreigners and change of Government have had their effects on the civilization, culture, customs and manners of the people of this land There has been a change even in the system of treatment of diseases The Western system could not keep down the Indigenous system of medicines for a long time. By Experience people learnt that the new system was in no way thoroughly satisfactory. It was very costly and found to be far beyond the reach of the masses in the village parts of the Country. The western system made them turn back to their olden days.

The Indigenous system of medicine, though temporarily buried underneath, did not cease to exist but was lingering here and there. In the last quarter of the last century the Oriental system was again brought to light. The highly English educated gentlemen including many eminent Doctors trained up in the western system of medicine, on experience felt the necessity for the revival of this system of ours. Many realised the benefits of the system being simple, cheap, and avilable every where. It has grown in popularity. The movement has of late secured the support of the Government and therefore has every hope for rapid improvement.

Our friend Dr. A. Lakshmipathi, B.A., M.B., C.M., "Bhishagratna" who is working for the cause of this system appealed to our Municipality to open Indigenous dispensaries, The appeal had good effect upon our Municipality, and the result of which is this dispensary. This was formally opened on the Jubilee day (30-10-26,) and placed in my charge, but due to the delay in my relief from the Coimbatore Taluk Board, I began work on 17th December 1926, and was able to open the dispensary for the public on 23-1-27. It has regularly been working since then.

STATISTICS AND NUMBER TREATED

The total number of patients treated in the Municipal Siddha Dispensary for the year ending 23rd January, 1928 was 56 259 including patients from suburbs which comprises of 25.595 new cases and 31,664 old cases of all castes of men, women, and children and the daily average comes to 156.

THE STATEMENT OF DISEASES OF THE OUT-PATIENTS TREATED IN THE DISPENSARY FROM 23-1-27 TO 23-1-28.

CLASS OF DISEASES.	NAME OF DISEASES.	NO. OF TREATED.
Infectious Diseases :—		
	Cholera	Nil.
	Dysentery	135.
	Enteric Fever	3.
	Gonorrhœa	269.
	Kala Azar	Nil.
	Leprosy	378.
	Malaria	857.
	Plague	Nil.
	Pneumonia	15.
	Pyrexia of uncertain Origin ...	1963.

CLASS OF DISEASES.	NAME OF DISEASES.	NO. OF TREATED
	Rheumatic fever and Rheumatism	969.
	Smallpox	Nil.
	Syphilis	450.
	Asthma	200.
	All other infectious Diseases	499.
Other General Diseases :—	Anaemia	143.
	Diabetes	125.
	Scurvy	9.
	Menstrual Disorders	372
	Leucoderma	155.
Systematic Diseases :—	Diseases of the nervous system	357.
	Eye—including Sore Eye	2220.
	Ear	788.
	Nose	214.
	Head	839.
	Circulatory	68.
	Respiratory system except Tubercle of Lungs	835.
	Dyspepsia	532.
	Diarrhœa	277.
	Intestinal worms	490.
	Dental Extraction	350.
	All other diseases of the digestive system.	4854.
	Goiter	7.
	All disease of the Urinary system	237.
	Diseases of the organs of the locomotion	215.
	All other disease of the skin	969.
	Other diseases of the generative system	652
Poisonous & Local :—	Snake bites	56.
	Rat bites	73.
	Dog bites including Hydrophobia	157.
	All other bites of Animals and Insects	201.
	Minor Surgical & Wounds	3670.
	GRAND TOTAL	24595.

(*To be continued.*)

Reviews and Notice of Books

Rasa-Jala-Nidhi

We have received the first two Volumes of the above treatise which will run up to ten volumes approximately. The first volume contains 340 pages with 15 pages' Preface; price Rs. 6 for India and Rs. 10 for foreign countries; while the second volume has got 296 pages with an Appendix of 25 pages; price same as Volume 1; compiled in Sanskrit by Rasacharya Kaviraj Bhudeb Mukherjee, M.A., Principal, Bengal College of Ayurveda and formerly Lecturer, Post-Graduate classes in Commerce, Calcutta University; with an English translation by the author and published by the author himself; to be had of from 41A, Grey Street, Calcutta and all other leading Book-sellers.

The name of the book suggests that the treatise is a compilation on Indian Chemistry and Alchemy. Before the publication of Sir P. C. Roy's History of Indian Chemistry, the majority of our educated countrymen were not even aware of the existence of such a branch of knowledge as Indian Chemistry and Alchemy. Most of the Vaidyas of the present day are innocent of this branch of Medical Science and the publication of these volumes, compiled, as they are, from various works on Rasavidya from the age of Ramchandra up to the present time is quite welcome. Preparation of mineral acids and oth-r Chemical medicines was known in India as early as the age of Ravana, the great king of Lanka, and not introduced by the Portuguese as suggested by Sir P. C. Roy.

Vol I is entirely devoted to mercury, its purification, therapeutic uses, its different preparations, etc. The treatment has been thorough and practical and is quite legible to all. There is also one important chapter, viz. Swallowing of other metals by mercury and the author is convinced unlike Sir P. C. Roy that mercury swallows other metals without any incrmment in its weight.

Vol. II deals with Mica, different Pyrites, Shilajatu, Taltham (Sulphate of copper), Sasyakam (blue stone), Sulphur, Gairikam (Red ochre), Harital, Kampilla, Gouripashana (Arsenic stone), Kapardaka, Shankha, Vermillion, Hingulam, Gold, Silver, Copper, etc.

The volumes are worth reading as the author introduces many new information in them. He had to study many ancient and new works in a scholarly way before writing the volumes under reveiw. As he did not begin as an ameteur, his work is bound to be reliable and useful.

The method of arrangement is very good; the original Sanskrit text has been given first followed by English reading. Besides compiling, the author had to write for himself portions of Sanskrit texts whenever he found something wanting or lost and this reflects great credit on the author's profound scholarship.

The printing, paper, binding and get-up are all that could be desired. We recommend these volumes to all lovers of Ayurveda as the treatise may be said to have introduced a new era in the revival of Ayurveda. We anxiously await the publication of the remaining volumes.

Shishu-Palan (CHILD-NURSING) by Dr. Kartik Chandra Bose, M.B. published by the Author from 45, Amherst Street, Calcutta ; Second Edition, Price Re. 1 only.

We have been presented with a copy of above written in Bengali. It is a known fact that there is not a single complete book on the important subject of Child-nursing in Bengali and no attempt has been hitherto made to write a good or complete treatise on the subject in Bengali. All that has been done is that one or two chapters on Child-nursing have been added to books on General Hygiene, the effect being that the importance of the subject has always been lost sight of. The present manual is on the other hand a happy departure and deals solely with the problem of Child-nursing even from the very conception.

The book consists of 191 pages and is divided into 15 chapters with numerous illustrations. It has got an Appendix dealing with treatment of common diseases of children with indigenous drugs. The book is full of many valuable and important suggestions and advices which, if followed, while nursing a child, are sure to promote the well-being of the child and thus be a means of national asset.

"Child is the father of man" is a true saying and we are aware of the heavy mortality rate of children in Bengal as also of the low vitality of the average Bengalee. It is therefore high time that something should be done to improve the general health of our younger generation. It is gratifying to note that the book under review tries to solve this intricate question and has succeeded to a great extent, as, by following the instructions stated herein parents will be able to bring up their children to healthy members of the society and thus sow the seed of a strong and active nation as opposed to the present day effiminate Bengalees whose only strength lies in their speech.

We welcome this manual and recommend it to all Bengali-speaking parents.

Janma-shasan or Birth-control in Bengali by Dr. Nripendra Kumar Basu ; published by the author from 45, Amherest street, Calcutta, Price Rs. 1-12 only.

The very title of the book is suggestive enough and so it needs no introduction. The author considers that the present economic distress of India is due to increase of her population and the means of solving the problem should be through the decrease of it. With this supposition in view, he advocates artificial methods of contraception, as in his opinion men cannot be prevented from the act of multiplying either by persuation or by abstinence.

In political sense, we endorse the views of the author, but the methods suggested are not always successful. Again there is one grave objection to the use of contraceptives, as the latter are likely to be misused. However, supposing there will be no misuse, there is still another difficulty. These instruments and medicines are generally meant for the poor. But the average Indian is to poor to make use of these rather costly articles. His average income per month is very small; so it is not possible for him to spend much on contraceptive methods. Again, the population of the country for which the book is written is not increasing. The present economic distress of Bengal is not due to increase of population, but due to causes external.

"Contraceptive methods are largely used in Europe, so Indians also should use same" is no argument. Contraceptive methods are used in Europe not only for economic reasons but also for the sake of pure luxury. In India also these methods will be used by rich men as such.

The book will of course, have a good sale on its own merits, and will serve a great end if studied carefully. Apart from the question of overpopulation, a nation to be great requires self-reliant, healthy, and hardy men. To become great, Bengal wants, more than any thing else, pure water, freedom from preventable diseases, moral and cultural education, medical aid and improvement of waste lands. In our opinion, if our countrymen turns to this method of work, then instead of contraceptives, which are obviously a fight against nature, Bengal will need more children than she now possesses.

There are of course, instances where contraception is necessary, as good moral education is not sufficient in many cases. Publication of such literature in Bengali is therefore desirable in such cases and we trust the book will be of service to at least one section of the people of our country.

Deha Tatwa—Anatomy in Bengali by Dr. Kartik Chandra Bose, M.B. published by the author from 45, Amherst Street, Calcutta; Price Re. 1-4.

Anatomy in Bengali is a new venture and we welcome the present work in our midst. The volume consists of two parts, first part consisting of 224 pages while the second part of 174 pages with an appendix of Bengali terms with English equivalents of 18 pages. The first part deals with different organs and bones of the bodies while the second part deals mainly with the nervous system. The author had to do a giant's work in compiling this volume and finding out Bengali terms for English ones. The book will be of great service to those who do not know English, as it may be said to be a rather complete work on the important subject of Anatomy. The get-up, printing and binding are very good. The style is lucid and there are many illustrations to make the work intelligible and interesting; the price is also very low considering the importance of the work.

We recommend the book to all Bengalee practitioners of medicine who do not know English.

H. N. C.

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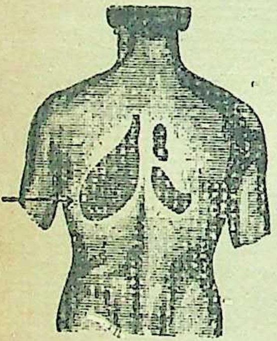

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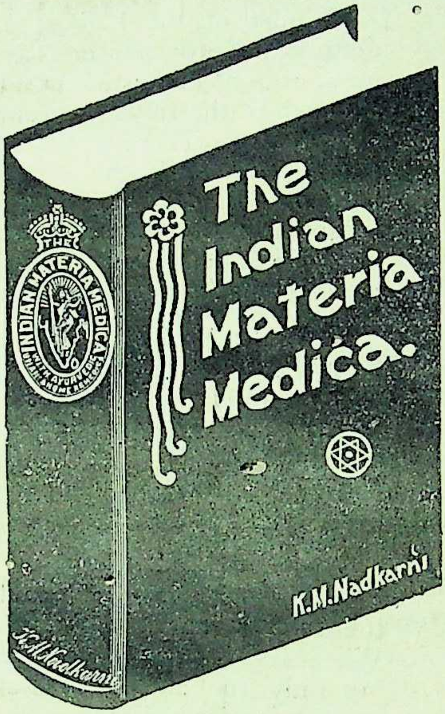

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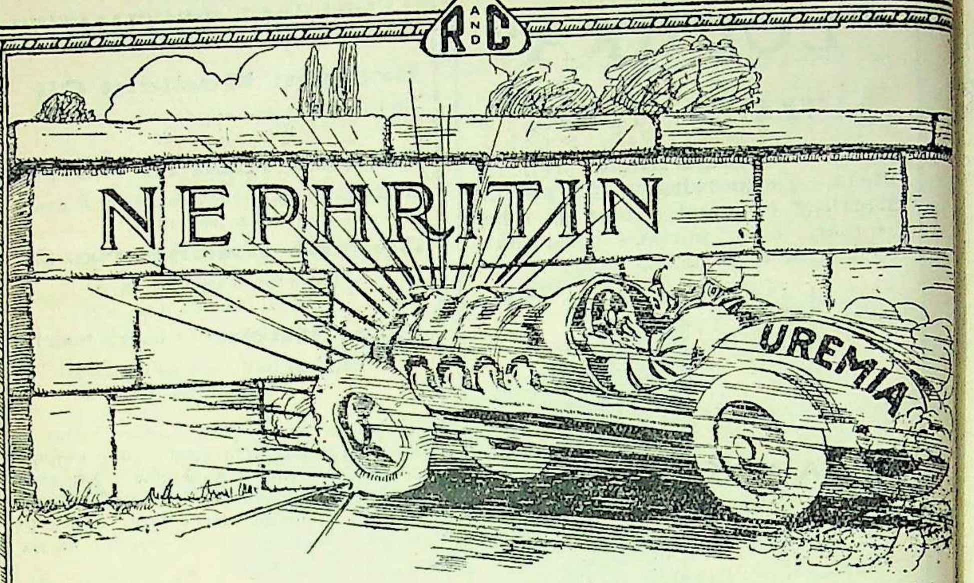

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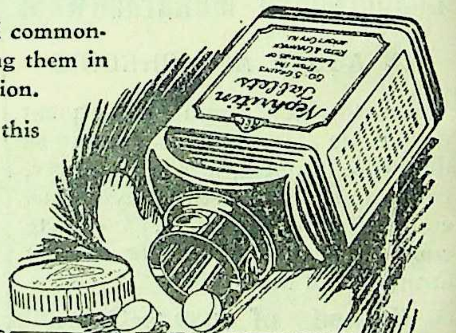

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THE JOURNAL OF AYURVEDA

Vol. IV.] May, 1928. [No. 11.

Oriental Medicine

Under the heading—"Revival of Chinese Medicine", the following appeared in the March issue of the "Young East" from Tokyo :—

"It is a remarkable and interesting phenomena that in Japan, where Western Medicine has made considerable progress and many eminent physicians of world-wide reputation have appeared, *a movement to revive the Old Chinese School of Medicine* has lately been started and is steadily gaining ground. In fact there are a few Japanese, even amongst the well-educated and intelligent classes who believe in and *prefer Chinese to Western Medicine* and a society called "the Oriental Medical Association" has been organized in Tokyo a few weeks ago by these men. The promoters of the Society declare that *Medical science in the West is profiting by the researches into the Medicine of the Orient* and that Japan should follow suit. *As a first step*, they opine, that *the practice of medicine of the old Chinese School, which is all but dead, should be revived.* With this object in view they are planning to send in a petition for it to the first sessions of the New Imperial Diet.

What is true of old Chinese Medicine is equally true of old Indian Medicine. What Japan has thought of doing today *viz*, revival of the ancient system of Chinese medicine, Indians have cried hoarse over that for several years past with indifferent success.

It is only two years back that a well-known I. M. S. officer who visited Japan in connection with the Congress of the far Eastern Association of Tropical medicine (*vide* Editorial, Indian Medical Gazette, March 1926) remarked as follows :—

"There is no movement towards resuscitation of the obsolete Indigneous sytem of medicine (which is of Chinese origin) as is seen in India.........Japan has deliberately broken with the past."

It is a curious irony of fate that exactly 2 years after (March 1928) Japan has repented what it has done under the dazzle of Western influence and now they want to bridge the gap between the past and the present, by reviving the Indigenous system of medicine and making research on the ancient system on modern lines—a policy which we are advocating all along since the Journal was started by the late lamented Mr. Bisharad.

Popularity of Chinese Medicine in U. S. A. The same paper (Young East of Tokyo) further adds that *Chinese Medicine is gaining in popularity on the Pacific coast of America.* A United Press correspondent recently describes it as follows :

"Here on the Pacific coast Chinese medicine is spreading like a new religion. (Will any enterprising Ayurvedist start for that part of America to pust Ayurvedic medicine, as the late Swami Vivekananda did in the sphere of Religion ? It will be a fit reply to Miss Mayo's Mother India.) New medical buildings, springing up in every city of the West, accommodate Americans, who are paying hundreds of thousands of dollars for medicine China is supposed to be discarding. *Patients are flocking to these new places in such numbers that they must make appointments in advance with some of them......* Several herbalists have been compelled to seek larger quarters." Will our rulers take note of the fact ?

Comment is superfluous. Either there is something radically wrong in modern Western medicine, or there is some morbid desire on the part of those, often intelligent and well-to-do Japanese and Americans who, in spite of modern scientific medicine, resort to the almost dead Indigenous system, nay prefer the latter. The same may be said of Ayurveda in India.

We have been dubbed in season and out of season by our Allopathic friends as unscientific. If we are so, our friends belong to the other end of the scale, for it is "too scientific" without being correspondingly practical, and such a charge is not quite unfounded. Fear is rightly apprehended in some quarters that there is "Multiplication of experience in technique" in which the spirit of treatment is more or less lost. While in modern medicine, diagnosis is almost perfect to the minutest details, successful treatment has not satisfactorily progressed with the better detailed diagnosis; while the "Pathology of Infection" has been studied with the minutest details, the "Pathology of Constitution" has been just begun in the Endocrinological, Biochemic and Psychotherapic spheres. The public is not so much interested in successful diagnosis as in successful treatmeut. The Allopath says, Homœopathy "treats disease but not the patient." Allopathy is giving increased stores to laboratory and too little to the clinical bed-side work. As the same morbid factor may produce different manifestations in different constitutions under different environments, there can be no single specific for each and every case arising out of the same morbid factor. Hence our friends have got so few specifics. As illustration we may point out that our friends can differentiate the amoebic from the bacillary forms of dysentery and they can further diagnose the different forms of the latter disease. We can, however, beat them by our treatment which cures these groups of disease more easily and readily than the Allopaths. Preference should be given to "Soil over seed" as is done in Ayurveda.

HERE AND THERE

The Lot of Urgent Cases in the Hospitals in Calcutta

The Indian Medical Record publishes the report of the Chief Officer of Calcutta Fire Brigade which reveals a disgraceful state of affairs in our hospitals. Patients conveyed by ambulance were refused admission to the hospitals owing to shortage of accommodation in them and they had to remain in the ambulance cars for hours, being carried from one hospital to another for admission ! We can well imagine the agony of these poor patients and their relatives when we know that these are urgent cases and often the question of life and death are involved. Many lives which might have been saved if promptly treated were thus lost because our hospitals have no accommodation.

In the Medical College Hospital, ambulances are detained sometimes unnecessarily for a long time. The officer on duty cannot admit any case however urgent it may be. He has to send his report to the Resident Medical Officer who has to perform multifarious duties and cannot be expected to be always at hand. If the Resident Medical Officer happens to be engaged in operations or in any other important work of a like nature, there is delay in receiving his orders and the ambulance cars in such cases have to be detained for a long time. Even after such waste of valuable time there is no certainty that the patient will be admitted.

While such is the case in the Hospitals managed and run by physicians trained in the scientific system of medicine, it is gratifying to note that the authorities of the Jaminibhusan Astanga Ayurveda Vidyalaya have decided not to refuse a single Ambulance case. The difference in the ideals of charity and humanity of these two schools of medicine becomes too prominent when we consider that the one has got the vast resources of the State at its back while the other has to depend entirely on the humble contribution of the public for its existence. But the beauty of the whole affair lies in this that these stalwarts of science and humanity cry hoarse in depreciating inhuman Ayurveda. Further commenting is superfluous.

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Original Articles

PULSE

Its Theory, Sphigmography and Conditions in Health and Disease, Etc.

BY

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INTRODUCTON

The Tridosha Theory

The "Tridosha theory" of Ayurveda or the "Theory of Vayu, Pitta and Kapha" is the tripod on which stands the Ayurvedic System of Medicine. Unfortunately this theory has proved a stumbling block to many a commentator, European and Indian, of the Ayurvedic System.

The pioneer European scholars of Ayurveda following the footsteps of the pioneer interpretors of ancient Greek Medicine, literally translated the three doshas as the three *humours*, wind, bile and phlegm. They concluded that the Tridosha theory is the Humoral theory of ancient Greek Medicine. We know that the "*Aiyindryik* or *Indriyagrahaniya*" (perceived by our senses) forms of Vayu, Pitta and Kapha are the three humours mentioned above. They are considered by Mahamahopadhyaya Gananath as the products of the action of *atindriyik* (not perceived by our senses) froms of Tridosha.

Since Endocrinology became increasingly studied and recognised in modern Western Medicine, modern European scholars of ancient Greek Medicine are beginning to realise that the so-called humours of ancient Greek Medicine are really *hormones*. Thus Brock (Galen—On natural Faculties) states that the 'humours" of Greek Medicine are really "hormones". Elsewhere the writer had tried to show that the so-called humours of Ayurvedic Medicine are really hormones (Indian Medical Gazette, February 1923).

"Every system of Hindu thought", says Captain Srinivas Murti, I.M.S., "is at once philosophy, science and religion, all in one, and one in all". The Tridosha theory is no exception and in its various interpretations we find a blending of the physiological and metaphysical. This attitude is not unreasonable, for one passes imperceptibly into the other when we study man. As the writer has elsewhere stated that "in man we find a judicious blending of psychic with the physiological, the physical with the metaphysical, the subjective with the objective, the fine with the gross, the mind with the body ; we cannot completely sever the one from the other." (North-American Journal of Homœopathy, Chicago, December 1923). The ancient Hindus had never put the physical and the metaphysical aspects of life separately in different water-tight compartments as modern Europeans have done.

But for a clear exposition of the "Tridosha theory" we must study the physiological and the metaphysical aspects of the theory separately. Thus from the metaphysical aspect, *Tridosha* is the same as *Tridhatu* while Tridosha theory is also known as Tridhatu theory, but it is not so in its physiological aspect, for Tridosha then means three energies and Tridhatus, three matters. Further, the metaphysical "Mahabhut Vayu" is quite different from the "Vayu" of Ayurveda.

Modern West can never understand this judicious blending of the physiological and the metaphysical, though the same cannot be said of the ancient Greek philosophers. Because Ayurveda had not clearly distinguished these two stand-points like the ancient Greeks, modern West jeers at the ancients that to hide their ignorance they have confused the subject by blending these two aspects. (*Vide* the late Sir Frederic Treves's article on Enforced dogmatism in ancient Medicine—British Medical Journal, October 24th., 1914—of course that was applied to ancient Greek Medicine). Ayurveda met with no better fate in the hands of the modern West (*Vide* the Editorial—British Medical Journal, September 15th., 1924, on the Madras Indigenous Medical Committee's Report).

Though we cannot ignore the intimate connection of the body, mind and soul, yet for the elucidation of the Tridosha theory to the Non-Ayurvedists we must make a distinction (however artificial it may be) and discuss separately the physiological and the metaphysical aspects of the Tridosha theory.

Further, Ayurveda mainly limits itself to positive physiological knowledge and pathological phenomena, leaving the mind and the soul to be discussed mainly by the metaphysicians and philosophers and theologians. We shall see that the "Tridosha theory" in its physiological aspect bears a close analogy to "Sympathetic Endocrinology", the latest theory of modern Western Medicine.

Finally, modern Medicine with its cellular pathology has completely ousted the old humoral theory. The Tridosha theory in its conception of "Pancha Bhuta" has gone far beyond the cells of modern physiology.

We find, therefore, that there is apparently a great confusion in Ayurveda to the Non-Ayurvedist between the Ayindriyik (Humours) and Atindriyik (Hormones) doshas on the one hand and between the physiological and metaphysical aspects of the Tridosha theory on the other. The whole conception is thus apparently hopelessly mixed up. But the Ayuryedist can easily dissociate and find out order out of this apparent chaos.

In this critical stage through which Ayurveda is passing, it is not desirable to give a vague interpretation of the Ayurvedic theory, jumbling up the inherent metaphysical and physiological ideas to mystify the subject, but to give clear-cut exposition of each aspect separately.

The theory of Sympathetic Endocrinology is a recent acquisition of the West. That it is getting a glimpse of the metaphysical aspect of life is evident from the writings of well-known western Endocrinologists, showing analogy with the Ayurvedic theory.

Leonard Williams says that "to reveal the intricacies and esoteric mysteries of the glands of internal secretion, which deals with the secret of life itself, there is danger of drifting into metaphysical study."

T. Bodley Scott says, "when we come to the consideration of the glands of internal secretion we are on different grounds altogether, almost on holy grounds, for here we are dealing with the secrets of life itself."

Captain Murti has rightly said that "the master-minds of Western Medicine are turning their attention to those regions which appear so Ayurvedic ; where Bio-physics and Bio-chemistry supplement the mechanistic physico-chemical conception of to-day and where physics and metaphysics, science and philosophy, and physiology and psychology are not in water-tight compartments."

There is not the least doubt that when Sympathetic-Endocrinology, which is in its infancy in the West, will fully develop, it will closely follow the foot-steps of the Ayurvedic theory, though differing here and there in some details.

THE METAPHYSICAL ASPECT OF THE TRIDOSHA THEORY

The "Tridosha theory" of Ayurveda is taken from "Triguna" of Hindu philosophy. The dynamic universal force emanating from God is a magnifying form of dynamic life force, found in man, which is thus a spark from the Divine, constituting the "Ego in man", uninfluenced by both body and mind, which are considered as something material. Man is thus composed of the soul, the mind and the body. Turning to our own solar system the dynamic world force is derived from the sun. To sun-worshippers, God is sun. The ancient Hindus conceived of several solar systems besides our own. According to the ancient Hindus, God has created the sun. Even atheists conceive of an universal intelligent force behind the universe, creating the world, maintaining it, and re-constructing new life by destroying old ones.

The primordial or original force emanating out of God is differentiated into primordial matter. The primordial force is "*Prakriti*" and primordial matter "*Purusha*". Here, of course, there are two theories. According to the Arayan School of philosophy the primordial element is Purusha (matter), whereas according to the Dravidian, it is Prakriti (force). We need not quarrel about these different conceptions of the primordial element as to whether it is force or matter, for we know that matter is latent force and one is transformed into the other.

One must be guarded against the conclusion that the primordial Purusha is male element and primordial Prakriti is female element. The primordial element is sexless. Purusha is the latent form of force or matter, whereas Prakriti is the active from of force. The union of Prakriti and Purusha, out of which is born the universe, is not a sexual union, but is force acting on matter.

The result is that the primordial matter is differentiated into five primary elements or "Pancha-Bhuta" *viz.*, "Khittaptejomarud-Byoma," *i.e.*, Earth element, Water element, Fire element, Air element and Ether element. Similarly the primordial force is differentiated into three "gunas" (Triguna) or three different forms of energy, *viz.*, "Sattwa, Rajas and Tamas", *i.e.*, the forces of destruction, construction and preservation.

The five "Bhutas" are not "Elements" in the modern sense of the term (chemical elements), but, says Prof. B. N. Seal, "are components of any compound substance." Sir John Woodroffe makes them still clear when he says that they are "varying degrees of matter" having the "gunas" as their attributes and are perceived by our five sense organs as follows :—

Earth element	detected by	the organ of	Smell.
Ap or water	,,	,,	Taste.
Teja or fire	,,	,,	Sight.
Air	,,	,,	Touch.
Ether	,,	,,	Sound.

It is very difficult to state what is a "Bhuta." We can from some conception of it from the following :—

We know that "Apa-bhuta" is detected by the taste.
Sugar is sweet to the taste.
Acetate of lead is also sweet to the taste.
Hence it is called sugar of lead.

Now the chemical constituents of these two substances have hardly anything in common. "We do not know", says Prof. Fraser Harris, "why these things, so different from one another, can stimulate the sweet-perceiving nerves of taste in the tongue." The common compound according to the ancient Hindus in these diverse substances (chemically) is the "bhuta" known as "Apa." This, mixed with other "bhuta"s in different proportions, gives the particular taste of a substance.

By interaction of "Guna" and "Bhuta" (force and matter) all secondary and tertiary and other combinations of substances in the world, living and non-living, are formed or evolved, including the human body, which being combination of five "bhutas" in varying proportions are guided and influenced by the three forces or "Triguna."

Thus the fœtal growth starts with the combination of Prakriti (female cell) and Purusha (male cell) during conception. The inherent cell force (Mahabhut Vayu) differentiates the Pancha Bhuta cell into tissues and organs developing the fœtus.

The three forces (Triguna) are represented by the Hindu Trinity. The force of Katabolism presided over by Mahadeva, the dominant influence being Satwa, corresponds to the Pitta of Ayurveda; the force of Preservation presided over by Vishnu, the dominant influence being Rajas, corresponds to the Vayu of Ayurveda and the force of Annabolism presided over by Brahma, the dominant influence being Tamas, corresponds to the Kapha of Ayurveda. We thus see how the Tridosha of Ayurveda corresponds to the Triguna of Hindu metaphysics.

Thus the late Dr. Hem Chandra Sen described Vayu, Pitta and Kapha of Ayurveda as the force of preservation, destruction and construction, respectively.

As matter is latent or crystallized energy, the Tridoshas are Tridhatus also, the former working or manifesting through the latter. Thus Vayu is Nerve force manifested in action through the Nervous tissue, Pitta is the force of Katabolism manifested through the Katabolic Endocrines, and Kapha is the force of Annabolism manifested through the Annabolic Endocrines. The products of the action of Tridosha on the body amongst others are the formation of the three humours in the body. Thus Vayu is air, gas or wind, as for example, the wind formed in the intestines as a result of fermentation, Pitta is bile and Kapha is phlegm.

Human being is thus composed of

(1) An ego or the original undifferentiated Prakriti.
(2) A mind or an ethereal substance, the link between the gross and the fine.
(3) A body composed of the Bhutas in different proportions.

The body is influenced by the forces of Vayu, Pitta and Kapha, which enable it to grow, live and die.

The Mahabhuta Vayu

From the above, it will be evident that the original cell force (Mahabhuta Vayu) is differentiated into the Triguna of Hindu philosophy. These correspond to Tridosha of Ayurveda which are different forms of energy just as the Pancha Bhutas are different forms of matter. We shall see later on that Vayu represents physical energy and Pitta and Kapha represent two opposite yet complementary chemical energies of construction and destruction. We know that in the organic body, death and life, dissolution and construction, are going on continually, the regulative force being Vayu.

A recent commentator has stated that "Vayu" of Ayurveda is derived alone from "Mahabhuta Vayu" and hence Vayu connotes something more than Nerve force and that "Pitta" is derived from "Teja-bhuta" and "Kapha" from "Apa-bhuta".

Another recent commentator has stated that Vayu, Pitta and Kapha are three *Dhatus* (matter) and not energies (Doshas). If we take matter as crystallized energy, there is very little difference. Force can act on matter. Tridosh acts through Tridhatus—the Nervous System and the Katabolic and Annabolic groups of Endocrines.

Regading the fact that vayu alone is derived from mahabhut vayu, Sankhya is quite clear on the point that Mahabhut Vayu means something more than vayu alone. The three forms of energy are all evolved out of Mahabhut Vayu. Nyaya, of course, holds that Vayu is the same as Mahabhut Vayu.

Personally we prefer the Sankhya view that vayu alone is not differentiated from mahabhut vayu or original, inherent, primary cell force.

K. S. Menon says that there is one force (cosmic force) acting in the universe. So also there is one force (microcosmic force) acting on the organism having different manifestations on the properties and qualities of matter on which it acts (subtle, intermediate and gross) so that the manifested force is highly coloured accordingly into Vayu, Pitta and Kapha. Thus the inherent cell force or Mahabhut Vayu is differentiated into the three forces or doshas.

They are called doshas or faults when the Pancha Bhutas or hypothetical elements combine under the influence of Triguna and assume shape and form. When the gunas act uniformly, the Pancha bhutas remain as such, when unequally (faultily) they combine the Pancha bhutas into matter having shape and form. This idea is more clearly developed in Younani medicine. When the faults are corrected, there is no formation of matter. This is attained by Yoga exercises of the Hindus.

"The original force of construction and the final force of dissolution are chemical energies, the physical force acts within that control". (Meyers, Canadian Lancet). We know that organisms lowest in the scale have no nerves and necessarily no nerve force is present.

Paton (Hormone Therapy) states that "behind the organs are the Nervous System and behind these are the Endocrines."

Thus Vayu or Nerve force is differentiated in higher forms of life where the nervous System is developed. Lower in the scale, it is differentiated into two opposing chemical forces acting complementarily, *viz.* Prakriti and Purusha. Higher in the scale, the third or Vayu force (physical energy) is evolved when the structures are more complex. We know that physical and chemical energies are interchangeable and one evolves out of the other. Food produces both physical and chemical energies manifested as work and heat on the one hand and chemical action on the other. The petrol of a motor engine is crystallized chemical energy which does work (manifestation of physical energy).

The Physical Philosophy of the Ancient Greeks

The ancient Greeks had similar views regarding the evolution of the world.

Pythagorus

In the first place there is matter, the universal recipient, common substratum of all things, in a potential state, the origin of all things. Next appear the contraries (forces), heat and cold, moisture and dryness. In the third place, arise the primary substances, Fire, Water, Earth and Air.

Plato

In the first place, there is the mother or receptacle of every visible and sensible production, a formless being (devoid of state), an universal recipient, a substance of impressions. It assumes form and becomes matter. Then appear the contrary forces, heat and cold, dryness and moisture.

Moses

Quoted by Plato, stated that the world is created out of an active cause (Prakriti of Hindus) and a passive subject (Purusha of the Hindus) not perceived by the senses. When the primary substances appear, they are evident to our senses. They are four in number, Earth, Water, Fire and Air possessing the four attributes of dryness and moisture, coldness and heat.

To be continued.

MINERAL POISON.

ARSENICUM

BY

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Introduction.—Having written an article on Hydrargyrum, I intend to take up the subject of Arsenic and its natural salts. The subject is very important and most difficult to describe for a man like myself. However, I shall try my level best to put the subject in a practical way, as far as I can, omitting safely the things of little practical value. I would be more glad if anybody else would discuss the subject, giving his own experience, in a more practical way, through the medium of this Journal for the benefit of the Ayurvedic practitioners. Much light has been thrown upon the subject at hand by various Eastern and Western writers, and hence if I quote from any book, I shall be clear to make you understand that I don't claim any originality.

SYNONYMS IN VARIOUS VERNACULARS :

Sanskrit :—Malla.
Bengali :—Senko. Simulakhdr.
Hind. :—Sankhia.
English :—Arsenic, White arsenic, Arsenious acid, Arsenious anhydride.
Bombay :—Somala, Sankhia.

Source—It is prepared by roasting certain arsenical ores. It contains not less than 99·8 p. c. of arsenious acid. It comes under the dangerous drugs and is sold in the market as white arsenic, which could be obtained from the Indian bazzars.

Character—A heavy white powder or stratified opaque masses.

Solubility—1 in 100 of cold water, 1 in 10 of boiling water, and 1 in 5 of glycerine.

Impurities—Lead, antimony, tin, cadmium, gypsum and chalk.

Identification—Arsenious anhydride resembles pieces of broken china in appearance. Its white porcelain-like appearance, glassy fracture and weight are characteristics.

Tests—When sprinkled over iginted charcoal, it emits a garlic-like odour.

Varieties—There are three varieties of arsenic, sold in the market. The first variety resembles alum in appearance. The second variety resembles turmeric in colour, and the third variety resembles conchshell in whiteness, and is hard like gypsum.

SELECTION OF ARSENIC FOR MEDICINAL PURPOSE :

The third variety, which resembles conch shell in whitness, and which is hard like gypsum, is selected for medicinial purpose.

Process of Correction of Arsenic for medicinal purpose :—

Take the crude arsenic from the market. Tie it in a piece of cloth. Put it in Dolayantra. Dolayantra must contain Kanjika in it. It must be air-tight. Expose it to fire for three hours. When the whole thing cools of its own accord, take it out, and wash it with plain water. Afterwards rub it in a stone mortar with lemon juice and dry it in sun's rays. The process of rubbing and drying in the sun should be repeated for three times.

N. B. The juice of plantain or the juice of the pot herb known as Tadalja in Gujrati, could be used instead of Kanjika in the Dolayantra.

(*Rasaratna Samucchaya*).

Action—Alterative, tonic and antisyphilitic ; antipyretic, caustic and antiperiodic.

Dose—$\frac{1}{128}$ to $\frac{1}{32}$ rati or $\frac{1}{64}$ to $\frac{1}{16}$ gr.

N. B. The corrected arsenic alone is very rarely used, but it is always used in combination of various drugs in Rasas in Ayurveda.

There are so many Ayurvedic preparations of arsenic, that it is practically impossible to describe them all in so short a. space. But the following important preparations will be of use to an Ayurvedist. The natural salts of arsenic, *e.g.* Yellow orpiment and Realgar will be described in their respective headings, afterwards, for the sake of convenience.

AYURVEDIC PREPARATIONS :—

(1) Reduced Arsenic. (2) Flowers of Arsenic. (3) Daru Brahma Asra Rasa. (4) Brahma Asra Rasa. (5) Jwarankusha Rasa. etc.

There are so many methods of reduction of Arsenic described in various books, that to describe each of them is out of the scope of this Journal owing to shortness of space. The methods, which are of practical value, will be described presently.

REDUCTION OF ARSENIC :—

Method No. 1.:—Take corrected Arsenic 5 Tolas. Keep it in a stone mortar or a china cup, soaked in lemon juice for 40 days. Add fresh lemon juice when necessery. After 40 days, rub the corrected arsenic with lemon juice, and prepare a ball out of this. The soaking of arsenic in a lemon juice for 40 days, and the preparation of a ball in it, is known as Momiya (*Gujarati*) or the process of primary reduction of Arsenic. Take fresh lemon juice in a china cup, and soak the ball of arsenic prepared as above. $\frac{3}{4}$ of the china cup should be filled with lemon juice. Put a second china cup over the first. Fix its edges and make it air-tight by three Kapadmati. Let it become dry. Expose this covered crusible, prepared of china cups, to kukutaput *i.e.* fire of ten cow-dung cakes. When the whole thing cools of its own accord take out the reduced arsenic and rub it in a stone mortar so as to make it to a fine powder.

Method No. 2 :—Take 5 Tolas of corrected Arsenic and rub it in the milky juice of the Arka plant (*Calatropias Gigantica*) for three days. Prepare a small ball of this corrected arsenic. Take 1 ℔. of fresh fruits of tamarind tree Indica, and rub them on a stone with water, and prepare a big ball of these fruits. Introduce the small ball of corrected arsenic in this big ball of tamarind fruits. Put this big ball inside a covered crusible. Do air-tight by three kapadmati. Let it become dry. Expose the covered crusible to fire in a kukutaput *i.e.* fire of ten cow-dung cakes. When the whole thing cools of its own accord, take the covered crusible and collect the reduced arsenic. Rub it afterwards, to make it to a fine powder.

Method No. 3 :—Take corrected arsenic 1 Tola. Rub it in the milky juice of the Arka plant (*Calatropias Gigantica*) or the milky juice of milk hedge plant for three days and prepare a pill of it. Take 25 Tolas of burnt ash of milk hedge or *Kharsani thopura* (*Guj*). Take a small earthen pot and put the burnt ash of the milk hedge plant at the bottom of the earthen pot. Cover the pill of corrected arsenic with Arka or black Dhatura leaf, and put this covered and corrected arsenic pill of one tola in that earthern pot. Fill the pot up to the brim with the burnt ash of the milk hedge plant and keep some of the burnt ash of milk-hedge plant as reserve. Put this earthen pot on charcoal fire and apply gradual increase of heat for 3 hours. While applying heat, if you find garlic-like smell coming out, put more of burnt ash of milk-hedge plant in such a way that the smell of garlic disappears by firmly pressing the ash in the earthern pot. When the whole thing cools of its own accord, after three hours of heat, you will find the reduced arsenic, completely white in colour, in the leaf. Collect it carefully and make it to a fine powder by rubbing it in a stone mortar.

Characters :—(1) A white fine powder, light in weight, and when placed on charcoal fire it does not emit garlic-like-smell. (2) It is obtained weight for weight.

N. B.—The reduced arsenic, which possesses the characters, shown above, is fit for internal administration, according to Ayurveda. It is very difficult to prepare a Nirdhuma Bhasma of Arsenic, and hence even the book like Rasaratna Samucchyaya, advocates the use of flowers of Arsenic.

Dose—$\frac{1}{32}$ to $\frac{1}{24}$ rati or $\frac{1}{16}$ to $\frac{1}{6}$ grs.

Anupan—Honey, juice of Tulsi (Holy basil).

Indication—Leprosy, malaria, relapsing fever, rat bite fever, Kala-azar, etc.

(2) Flowers of Arsenic :—*Process is as under* :—Take corrected arsenic 1 Tola and prepare a *chakty* of it. Put this chakty in the lower vessel of *urdhanapatana* yantra or the subliming apparatus. Expose it to charcoal fire for 3 hours. When the whole thing cools of its own accord, take out the flowers of arsenic, white in colour, from the upper vessel carefully, and rub it to a fine powder. Urdhanapatna yantra or the subliming apparatus, should be prepared as the extraction of Mercury from the native cinnabar or the mercuric sulphide.

Character—A white fine powder, light in weight, and when placed on charcoal fire, it emits a garlic-like smell. It is obtained weight for weight.

Dose—$\frac{1}{32}$ to $\frac{1}{24}$ rati or $\frac{1}{16}$ to $\frac{1}{8}$ gr.

Anupan—Honey or Tulsi juice (*Holy Basil*).

Indication—Leprosy, malaria, relapsing fever, rat bite fever, Kala-azar, etc.

N. B.—There is no difference in Reduced arsenic and Flowers of arsenic, practically speaking, according to Ayurvedic Texts, *e.g.* Rasaratna Samucchaya, and it can be safely used instead of Arsenic Bhasma, for internal medicinal use.

(3) Daru Brahma Asra Rasa :—(Jwarankush)—Ingredients :—corrected arsenic 1, corrected cinnabar 1, corrected Dhatura seeds 1, and Pipper longum 1.

Directions—Powder and mix. Rub the ingredients in the lemon juice in a stone mortar till it is prepared into a pill mass. Divide it into pills of one rati each.

Strength—Each pill contains $\frac{1}{8}$ gr. arsenic and ½ gr. Dhatura seeds approximately.

Dose—1 rati or 2 grains.

Anupan—Ginger root juice or the juice of Tulsi leaves.

(4) Brahma Asra Rasa—Take corrected arsenic 1 tola and rub it for 3 days in cows' urine and also rub it with the juice of Brahmi leaves for three days. Let it become dry and make it to a fine powder by rubbing it in a stone mortar.

Dose—$\frac{1}{32}$ to $\frac{1}{24}$ rati or $\frac{1}{16}$ to $\frac{1}{8}$ gr.

Anupan—Ginger root juice or the juice of Tulsi leaves.

(5) Jwarankush Rasa—Corrected arsenic 1, Round black pepper 6.

Direction—Powder and mix.

Dose—⅛ rati or $\frac{1}{4}$ gr.

Anupan—Honey, Ginger root juice or juice of Tulsi leaves.

Indication—Malaria, relapsing fevers, rat bite fever, Kala-azar, Hyperpyrexia, etc.

PHARMACOLOGY :—

Enternal : Skin—Arsenic has got no action on the unbroken skin, but it is a powerful irritant and caustic on the denuded or the broken skin.

Internal : Alimentary tract—In medicine doses, it stimulates the gastric juices and improves appetite but in large doses or the poisonous doses, it is a powerful gastro-intestinal irritant, *i.e.* it causes vomiting, purging, colicy pain and bleeding from intestines, etc.

Blood—It is quickly absorbed, and has got some specific action on the parasites in blood, *e.g.* spirochaetae pallida, T. B. bacilli; and malarial parasites, etc. It increases the red blood cells.

Heart and Circulation—In medicinal doses, it stimulates the heart and circulation, but in large or poisonous doses, it inhibits the function of the heart.

Lungs—It is stimulant, expectorant and antispasmodic.

Nervous system—In medicinal doses, it acts as a nervine tonic and in large or poisonous doses, it diminishes the sensibility, and the reflex excitability of the nerves.

Bone—Like phosphoras, it increases the compact tissue at the expense of the medullary.

Elimination—It is slowly eliminated from the system, and it has got a cumulative action. It is eliminated through the sweat-glands of the skin. It causes itching and eruptions on the skin, by taking an over dose of arsenic, as a poisoning symptom.

Metabolism—Arsenic stimulates the general metabolism of all organs and tissues, and it alters the activity of the system in such a subtle way that many abnormal conditions of it due to faulty nutrition, are benefited by it. On account of this action of arsenic, it is alterative and a general tonic.

Arsenic, when taken internally, passes through all the organs and tissues, and it is known to combine with albuminous constituents. During its short stay in the tissues it performs certain important functions. Arsenic is reduced into an arsenious acid by the venous and capillary blood, at the time of absorbtion. In the liver it reduces the formation of glycogen in medicinal doses, and if continued for a long time in a high dose, it causes fatty degeneration of the liver and many other organs.

Specific action—It has got a specific action on the spirochaetæ pallida, the causative organism in syphilis. It improves the quality and quantity of blood in syphilis.

TOXICOLOGY AND ITS TREATMENT :—

Acute poisoning : (signs and symptoms).—

Vomiting, purging, colicy pain, malaria, collapse, prostration and even death in some cases within 5 to 75 hours. The above mentioned signs and symptoms are brought about within an hour by an over dose of arsenic.

Antidote.—(1) Emetic, stomach pump, and demulcent drinks, *e. g.*, ghee (clarified butter).

(2) Stimulants, *e.g.*, musk and camphor.

(3) Hot water bottles to the feet and blankets to prevent the symptoms of shock.

Chronic poisoning: (Signs and symptoms).—Salivation, oedema over the eyelid, malæna, fatty degeneration of various organs, bleeding from various parts, *e.g.* intestine, nose, ear, etc., burning micturation and cutaneous rashes. The above mentioned signs and symptoms are caused by taking arsenic for a long time, without proper correction and reduction.

Antidote.—(1) Stop arsenical prepartions.

(2) Move the bowels by a dose of castor oil.

(3) Keep the patient on milk diet.

(4) Give ghee as demulcent drink or the juice of Tandalja, (*Guj*) a pot herb.

(5) Give Shiva Churna with sugar for three days to eliminate the poison.

Therapeutic :—

External : Skin and mucous membrane—Arsenic has got no action on the unbroken skin but it is a powerful irritant and caustic on the denuded skin or the mucous membrane, and as such it is used in the form of a powder of the corrected drug to burn the external and internal piles in Ayurveda. The treatment is not without any danger and hence it should be used with proper judgment by best hands only.

Internal : Alimentary tract—In medicinal doses, it increases the digestive juices and hence it is used in indigestion and dyspepsia. It is not known to have been used singly for these complaints, but it is used in the combination of various drugs in the form of Rasa.

Blood—It kills many parasites *e.g.* T. B. Bacilli, Bacilli Lepra, Relapsing spirilum and hence it is used in Tuberculosis of the lungs, Leprosy, Relapsing fever, rat bite fever, etc.

It is an antipyretic and antiperiodic and so it is used to reduce any pyrexia. Jwarankusa, Daru Brahma Asra Rasa and Brahma Asra Rasa, are used to cure relapsing fever, rat bite fever, Kala-azar, malaria, etc. It improves the quality and quantity of blood and hence it is used in anæmia, either primary, the pernicious, or secondary. It is an alterative and tonic and hence, reduced arsenic or the flowers of arsenic with proper anupan is used to cure many skin diseases, *e.g.* Leprosy, Psoriasis, Ringworm and eczema.

Specific action—It is an alterative and tonic and has got a specific action on the spirochætae pallida, the causative organism of syphilis. Therefore it is used with success in primary, secondary and a tertiary stages of syphilis with success.

Lungs—It is stimulant, expectorant, tonic and anti-spasmodic and hence Reduced arsenic or flowers of arsenic in medicinal doses with proper anupan is used in Phthisis and asthma.

Nervous system—In medicinal doses, it stimulates the nervine function which has been diseased by the poison of syphilis. It is used in Locomotor ataxy and many other paralytic diseases, resulting from syphilitic poison with benefit, if continued for a long time.

Metabolism—Arsenic diminishes the glycogenic function of the liver. It reduces the amount of sugar and improves the anæmia caused by Diabetes mellitus.

To be continued.

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PATANJALI

SECOND CENTURY B. C.

BY

DR. GIRINDRA NATH MUKERJEE, B.A., M.D., F.A.S.B.,

CALCUTTA.

—:o:—

Patanjali is well-known as the famous author of Mahabhasya—the celebrated commentary of Panini. He lived in the second century B.C. [see Goldstucker's Panini P. 234; Prof. Bhandarkar, Indian Antiquary 1872 Pp. 299-302]. His mother was Gonika (गोणिका पुत्रो भाष्यकार इत्याह: 1, 4, 51, Nagoji Bhatta) His birth-place was Gonardya, the modern Gonia; and so he was styled as Gonardya (1, 1, 21 गोनर्द्दीयस्त्वाह । कैयट :—भाष्यकारस्त्वाह । नागोजी भट्ट :—गोनर्द्दीय पदं व्याचष्टे । भाष्यकार इति । see Indian Antiquary vol. II. P. 70). As a medical author he is said to have (written a commentary on) redacted the C. S.: आप्तोनाम अनुभवेन वस्तुतत्त्वस्य कात्स्न्येन निश्चयवान, रागादिवशादपि नान्यथावादी यः स इति चरके पतञ्जलिः । Quoted in Laghu Manjusa of Nagesa Bhatta.

पतञ्जल महाभाष्य चरकप्रतिसंस्कृतैः ।
मनोवाक् कायदोषाणाम् हन्त्रेऽहिपतये नमः ॥

(Vide solutation in Ayurvedartha-dipika).

2. Patanjali's (commentary on) redaction of C. S. is not available now. He is however quoted by Sivadasa in T. C. many times, and especially as an authority on *Lauhasastra* or the "Science of Iron."

अर्चयित्वा विधानेन हेरम्बं गुरुभास्करौ ।
लोकपालान् ग्रहांश्चैव क्षेत्रपालानथौषधम् ।
आदित्यदेवताश्चेष्टा धन्वन्तरी पतञ्जली ।
दद्याद्बालश्च सर्व्वेभ्यो नाना भक्ष्योपचारतः ॥

"Bhoja in his Nayayuvartika speaks of Patanjali, as a physician both to the mind and to the body" (Ray).

योगेन चित्तस्य पदेन वाचां मलं शरीरस्य तु वैद्यकेन ।
योऽपाकरोत् तं प्रवरं मुनीनां पतञ्जलिं प्राञ्जलिरानतोऽस्मि ॥

Bhoja: Nyavastika, quoted by Sivarama, the commentator of Vasavadatta.

'The moksha (salvation) as taught in the Yoga system of Patanjali is also connected with alchemy' (Ray). "The author (Patanjali) adds to the three parts of the path of liberation a fourth one of an illusory nature, called Rasayana, consisting of alchemistic tricks with various drugs, intended to realise things which by nature are impossible." (Alberunis' India—I. p. 80). The "Philosophy of Mercury" finds a place in the Saradarsana Samucchaya by Madhavacharya as a path leading to salvation.

3. Vataskandha : In the colophon quoted in the Vaidyaka (see Trien. Cat. of Mos. 1916-1919, vol. III, Part I, Sanskrit B, R. No. 2371. p. 3272) we find Patanjali as the author of Vataskandha :

इति श्रीपतञ्जलिकृतौ वातस्कन्धे उद्देशलक्षणपरीक्षाध्यायि सन्धिसमाप्तः ॥

4. Siddhantasara : Another colophon attributes this work to Patanjali : (*Ibid*).

इति श्रीपतञ्जलिकृतौ सिद्धान्तसारव्याख्यायां पैत्यस्कन्धनिरूपणं समाप्तं ॥

cf. Stein. Mss.

PATANYALI IN T. C.

1. " कज्जलाभाः शिरोजास्ते रसायनविधौ मताः ।

2. कफपित्तानिलप्राया देहास्तव महीतले ।
पतिता दानवास्तत्र प्रदेशाश्चापि तादृशाः ॥
गिरिसारास्ततो जाता उत्तमाधममध्यमाः ।
कफक्षेत्रं शिरःस्थानं हृदयं पित्तमण्डलम् ॥
वायोर्नाभिरधःक्षेत्रमिति देहविदो विदुः ।
वक्षोजा व्याधिनाशार्थं कटिजावाजि कर्म्मणि ।
शिरोजा देहसिद्ध्यर्थमित्येव त्रिविधा मताः ॥ Do.

3. दिव्यं द्रावं समादाय लोहकर्म्म समाचरेत् ।
यदि दिव्यानलाभाषस्ततो घर्षणसम्भवः ॥
आरोप्य कर्म्मशालायमग्निं यत्नेन पूजयेत् ॥ P. 351.

4. क्वाथं पर्य्युषितं कृत्वा वलिं दत्वा चतुर्द्दश ।
अपरोऽपि च दातव्यो निषेको व्यधसन्निधि ।
अम्लस्वच्छारणाले च ततो व्यधमुपक्रमेत् ॥ Do.

5. एतद्देहेन विख्यातः प्रलेपो माक्षिकेण च ।
माक्षिकार्द्धगुणाप्रोक्ता कुनटी चाम्लपेषिता ।
मारकद्रव्यसंयुक्तं षोड़शांशेन भीयते ॥ P.352.

6. हस्तिकर्णं समीरेण अङ्गारध्मापितं भृशम् ।
उत्तोलितं विधात्लीनं स्फुलिङ्गैः परिवर्ज्जितम् ।
ततोऽङ्कुशमुखे लग्नं मन्दं शपीड़ितं यथा ।
उद्धृत्य विफलातोये प्रक्षेप्तव्यं शनैः शनैः ॥ Do.

7. चतुर्भिः प्रहरैर्ज्ञेयः पुटपाकक्षणो बुधैः । P. 354.

8. मातृकां पूजयेत् सर्व्वां नायिकाश्वविलायकम् ।
अन्यत् स्वस्त्ययनं कुर्य्यात् सदा हितमनाः सुधीः ॥
पक्ष एव भवेद्देव त्रिवर्गफलदो नृणाम् । P. 355.

9. तावल्लौहं पचद्वैद्यो यावद्दस्त्रेण पीड़ितम् ।
समुद्रं जायते व्यक्तं न निःसरति सन्धिभिः ।
अङ्गुलिभ्यां निष्कृष्टस्तु यदा चूर्णत्वमागतम् ।
तदं भिन्नं विजानियाल्लौहं लौहविशारदः ।
वर्त्तितो वर्ज्जितो वर्त्तिस्वरूपत्तम् व्रजेदिति ।
ताभ्यामेव शनैदृष्टं सिद्धविद्याश्चिकित्सकः ।
मन्मथाहूस्तथा लौहमलआखिल लक्षणम् ।
अतिपाकेन तज्ज्ञेयं खरसुज्झित लक्षणम् ॥ Do.

10. अवतार्य्यमनाकं अस्तु इति । Do.

11. इति मुख्यक्रियायाः स्याद्द्विगुणा चोत्तर क्रिया ॥ P. 360.

Health & Hygiene

TUBERCULOSIS IN INDIA

How to Control and Eradicate it

Of the various diseases that are sapping the strength of the nation to-day, Pulmonary Tuberculosis—popularly known as Consumption or Phthisis—is the most wide-spread and is creating the greatest havoc in the country. Malaria and less commonly Kala-Azar are probably more wide-spread in Bengal, but they pave the way for Tuberculosis.

Scientific investigations in the West have brought out the fact that 50 per. cent. and upwards of the people living in the large cities, are infected with tubercle. Reliable statistics and informations available from the laborious investigations made by Dr. Arthur Lankaster in India, show that consumption may be the cause of one out of every 7 or 8 deaths of the whole population of India; and this proportion rises to 1 in 3 or 4 deaths recorded among the adults in the large cities. As a result of these thorough investigations on the incidence of the disease, he concludes that in many of the large cities of India, there has been considerable and progressive increase during the past 30 years and that the incidence of the disease among Purdah women is one and a half or twice as much as among men. Among the victims are the breadwinners, not infrequently the only support of the family, the young mother, the newly married girl, the mistress of the household, the brilliant youth, the educated and the illiterate, the poor and the well-to-do and often the jewel of our country; in short those whose lives are useful and precious to the family, community or the country at large.

The prosperity and happiness of a nation depend largely upon the health of its people—a commodity which is of prime importance in the performance of life's duties and without which nothing can be well accomplished in life. Realizing thus the paramount importance of the preservation of health of the cities and the enormous number of useful lives that are being carried away in the prime of life every year by this disease, and considering its infectious nature and the fact that it is preventable with proper knowledge, should not the problem of prevention and extirpation of phthisis legitimately claim the foremost attention, money and labour of the authorities, the leaders, the educated and wealthy well-wishers of the country?

It makes one sad to compare the Herculean efforts displayed by the nations of Europe and America, the keen and enduring interest and the vast amount of money and labour devoted by them, with the effiminate efforts, the feeble and transient interest exhibited by us here and the inadequate proportion of money devoted for the purposes of sanitation and medical aid in order to alleviate and prevent the human sufferings.

CAUSES OF TUBERCULOSIS.

A brief review here of the facts about the causation of phthisis will throw light on the measures that should be adopted for the prevention of the disease in India.

It is now an established fact that infection with T. B. is the direct cause of phthisis. But careful and painstaking scientific investigations have shown that infection with T. B. is not invariably followed by tuberculosis. Hence it follows that some other factor or factors are necessary to produce the disease. The seed (T. B.) does not and cannot grow on every soil (person). It requires a suitable soil for the seed to take root and flourish, and the individual low power of resistance, inherited or acquired, affords this. The modern large cities present conditions which favour the lowering of the inherent resisting capacity of the citizen, while the direct cause, *viz.*, infection with T. B. is furnished by indiscriminate spitting and coughing with mouth open, by consumptives, detected or undetected as such.

Any circumstance which impairs the general health may predispose to tubercle. Overcrowding in the large cities of India with their insanitary dwellings, shops, factories or other commercial buildings where sun and air scarcely peep in, the filthy lanes, ponds and other insanitary conditions that demand attention of the Municipal authorities, poverty with its attendant train of evils, adulteration of foodstuffs leading to malnutrition, the stress and strain of modern civilization and the struggle for existence which robs the citizens of the necessary amount of rest, the prevalence of infectious and contagious diseases, the utter ignorance prevailing among the mass of the hygienic laws and the causes and modes of infection and prevention of the commonly prevailing disease, and lastly the evil customs and habits rigidly in force among some communities of India, *viz.*, Purdah system, child marriage, insanitary lying-in-conditions, using tobacco-pipe and untensils used by another person, sleeping with head covered and doors and windows shut etc., are the chief predisposing factors of the disease. While the Purdah system that denies sufficient light and air.—the healthgiving gifts of Nature, meant alike for the poor and the rich, the child marriage that results in frequent child birth at a tender age and the insanitary lying-in-conditions are mainly responsible for the higher incidence of the disease among women.

MEASURES FOR CONTROL AND ERADICATION

The measures that have been successfully adopted in the West for the control and eradication of phthisis may be classified under the following groups :—(1) Sanitary, (2) Medical, (3) Educational, and (4) Social.

(1) "Sanitary measures and laws" : removing the insanitary conditions that favour dissemination of T. B. and promoting the health of the city have a greater influence of the reduction of the incidence of the disease than all the lectures and educative propaganda bearing on the subject.

(2) "Medical" : To Dr. Philip is due the credit of the conception and realisation of a complete equipment for the anti-tuberculosis scheme which comprises of :—

(*a*) Compulsory notification of the disease.
(*b*) Anti-tuberculous dispensary ;
(*c*) Sanatorium intended for the treatment of early cases ;
(*d*) Hospital for the advanced and hopeless cases ;
(*e*) Farm colony for convalescents and arrested cases.

Of these, (*b*) is the most important and deserves special mention as its need in the larger cities of India is imperative. The aims of the anti-tuberculous dispensary are, in short, to hunt out the sources of infection (to prevent its extension) in the city, supervise and treat the ambulant cases, remove the early cases to the sanatorium, the advanced ones to the hospitals, and to educate the public about the hygienic ways of living and the modes of prevention of the disease.

(3) "Diffusion of knowledge" about the laws of health and modes of prevention of phthisis and other prevailing diseases may be facilitated—

(*a*) By the introduction of 'Elementary Hygiene' as a compulsory subject in the schools ;
(*b*) By the working of the anti-tuberculous dispensary in the cities ;
(*c*) By the distribution of 'health pamphlets' published in different languages ;
(*d*) By propaganda work ; and
(*e*) Through the press.

(4) "School measures" :—As the study of the aetiological or causative factors of phthisis has shown that the problem of the prevention of the disease is closely linked up with social reform, the solution of the problem should therefore be sought in the closer co-operation of the Government and the Municipal bodies with the societies organised by private enterprise ; the success of the scheme will depend upon the degree of

harmonious co-ordination among them. It will be evident from the above that the anti-tuberculous measures adopted abroad should be modified and supplemented to suit the condition of our land. For instance, the prevalence in India of rigid *purdah* among women in some communities, demands for the efficient working of the anti-tuberculous dispensary, the services of a staff of specially qualified lady doctors and nurses, which has got to be created unless the rigidity of the system itself can be removed.

It is suggested that the institution of 'health societies' in the large cities, the objects of which should be to eradicate the commonly preventable diseases, (*e.g.*, Malaria, Cholera, Tuberculosis, Small-pox, Plague etc.,) to promote the health of the cities, and to educate the mass about domestic hygiene, maternity, child welfare, and to reform the evil social customs will serve a wider purpose and attract greater interest, generosity and sympathy of the wealthy and the educated and thus will be of great help in winning the campaign against tuberculosis.

In conclusion, it is hoped that the leaders of our society will realise the crying need for the establishment of 'anti-tuberculous dispensaries' in the large cities of India and that their co-ordinated efforts will surmount all difficulties obstructing the way towards taking the first step (*viz.*, establishment of anti-tuberculous dispensary) ere long, in the extirpation of this scourge of humanity.

DECAYED TEETH ARE CAUSE OF POOR HEALTH

Physician Endorses Three Preventive Measures—None Takes Place of Dentist

The three best preventitives for tooth decay are these : (1) a good tooth brush ; (2) a dentifrice with germicidal properties ; (3) An antiseptic mouth wash.

To these add one firm resolution : See your dentist twice a year.

The cause of much ill health is decayed teeth. Not so many years ago, doctors were ignorant of this. It is unquestionably true that much bodily suffering can be avoided, life prolonged, the state of general health greatly improved if people will take care of their teeth.

Nature has done her utmost to help man to preserve his teeth The enamel, which forms the surface of the teeth, is the hardest tissue in the body. Normally it is clear, lustrous, transparent ; its great density adapts it for mastication of extremely hard substances.

Yet there are organisms forming in the mouth all the time which are persistently trying to break down that enamel and unless measures are taken against these organisms, the tooth structure eventually will be affected and decay will destroy the teeth, and perhaps, infect the entire body.

Dentists universally urge the selection of a good tooth brush, and the frequent brushing of the teeth to eliminate these destructive germ organisms. Don't buy a brush merely because it is cheap; such a brush may be useless for its bristles are likely to be of poor quality and will not last. Get a good brush whose action is genuinely prophylactic. Preferably, the bristles should be arranged in a saw tooth formation, and the bristles at the end ought to be tufted so that cleansing action is at maximum efficiency. Usually it is better to buy a brush with a curved handle, so it becomes easier to reach all the teeth and to manipulate the brush between the teeth. A good plan is to use two brushes alternately, one in the morning and one at night. This gives the bristles time to dry and harden. Brush the teeth up and down; not across, so that every food particle between the teeth is removed.

Many dentifrices are on the market, but only a few have a genuine germicidal action. Select a dental cream possessing an ingredient which in addition to cleansing the teeth, actually destroys the germs which cause decay.

By no means least important is a mouth-wash of effective antiseptic properties. Physicians and dentists endorse certain preparations of hydrogen peroxide, but not all of them. Merely to ask for hydrogen peroxide at a store, oftentimes results in a weak, ineffective solution being offered, from which nearly all antiseptic action has long since vanished. Providing the hydrogen peroxide is of extra strength and purified and put up in a container which plainly specifies on the label the strength and purity of the contents, the purchaser may be assured that he is obtaining one of the best and safest antiseptics.

These are precautions which any man can take against the dangers which are ever present in tooth decay. They will do much to counteract destructive germ organisms and to keep the mouth and teeth pure and wholesome.

HAVE YOU EVER PONDERED HOW DIET AFFECTS WORK?

Why do we hear so much these days of balanced breakfasts?

Why is breakfast said to be the most important meal of the day?

What is, after all, a balanced breakfast?

Answers to these questions are not, necessarily, the profound statements of physicians and dieticians. To be sure there is profound research at the back of the answers.

But who asked the question, anyhow? that gets to the heart of the matter quicker. Employers asked them. Heads of great corporations, charged with the management of thousands of operatives, began studying the influence of diet on individual efficiency. Universities became interested. They also had a problem of managing the instruction of thousands of young men and young women.

These people asked the questions. And the scientists were called on to answer.

Someone asks: Well, how do these questions affect me? That is well asked, too. You are either a student, or a worker, manual or mental, or the head of a business of your own. Whatever you are, therefore, the subject is vitally important to you.

That in itself is an answer to the first question. We hear so much of balanced breakfasts simply because a balanced breakfast is important to everybody; because the absence of a balanced breakfast pulls down our earning power, our efficiency; whereas, a proper first meal will build up our energy, increase our capacity for mental and physical effort and so improve our earning capacity. "Earning capacity" is a relative term; it applies with equal force to the student, the worker, or the executive of a business

As to the second question: Breakfast is the most important meal of the day because 70%—nearly three-quarters—of the day's work is done in four or five morning hours! Is not that significant? It has been proved again and again in hundreds of great business institutions and in thousands of schools, colleges and universities. The really important work, day in and day out, is not done in the afternoons. It is the mornings that count Wages, salaries, profits are made in the morning hours in those vast industrial enterprises which support modern standards of living. Similarly, the difficult subjects, those which consume mental energy, are purposely taught in nearly every school and university during the morning, not during the afternoon.

If further answer be required why breakfast is the important meal, let it be said that without the strength and energy which a nourishing breakfast alone can give, no person can be said to be working at his utmost efficiency. That is scientifically true. After a night's sleep, food is digested; the stomach is empty. The bodily energy is low; it needs replenishing. Food, the proper food, will create new energy; it will give a renewed impetus for mental and physical accomplishment. So, with a body fully rested through sleep, newly reanimated through energy-producing foods we rapidly reach our peak of creative and productive capacity. The ascending curve of individual capacity comes in the morning hours; the afternoon brings the descending curve.

After all, the last question is very simple. It can be made complex by expressing it scientifically in terms of proteins, carbohydrates, minerals and vitamins, but some foods contain all those necessary properties, so let us speak in terms of food. Just remember to eat in the mornings—and make it a rule—a bit of fruit, a cereal, preferably a hot cereal of rolled oats (containing all properties needed in ample proportions) and a cup of hot beverage, if desired. That is a balanced breakfast—balanced because is contains the rations needed for the human body in correct proportions.

Avoid a scanty breakfast. A roll and coffee is not enough !

CHILD'S APTITUDE DUE TO FOOD

Recent investigations in primary schools have confirmed findings previously made in higher educational institutions as to the importance of diet, especially a well balanced breakfast, in the mental capacities of students.

In almost every instance it was found that the subjects requiring the greatest mental alertness and concentration were taught during the morning honrs. The afternoon was reserved for studies or courses which did not tax the mental energies so much.

Diet played a very important part in equipping students for the hard morning classes. In students, endeavor, and indeed, the tendency is observable in nearly all human endeavor, the curve of efficiency is an ascending one in the morning, reaching its peak before noon. The curve steadily declines during the afternoon, reaching its lowest ebb just before time for the evening meal.

Backwardness among children is, of course, traceable to many causes, but these investigations point out clearly that a child well nourished is a child well equipped, other factors being equal, for the best work in school. Flagging energy when the morning is only half through, is very often due to an insufficient breakfast or to the wrong kind of food for breakfast. Headache, drowsiness, and inability to concentrate readily upon a problem, are frequently due to the same cause. If the trouble is not corrected illness may result. A poorly nourished child is not an apt subject for instruction.

After all, the solution of the problem is extremely simple. A well balanced breakfast, as anyone ought to know, cannot consist of tea or coffee and a roll. There is little, if any, nourishment in tea or coffee. And it is equally evident that there is not sufficient nourishment in a roll or a piece of toast to last a child until noontime.

A well balanced breakfast consists usually of a bit of fruit, preferably uncooked fruit, a cereal, such as rolled oats, simply prepared yet containing all the necessary protein, carbohydrates and vitamins necessary to sustain energy all through the morning, a piece of toast and a hot beverage, also, if desired, or a glass of milk.

Such a breakfast is what is meant when educators, as well as doctors and competent dieticians, speak of a "well balanced first meal." It is the unanimous opinion of all who have studied the problem that breakfast is by far the most important meal of the day. It is the meal that under no circumstances ought to be slighted or omitted. It is probably the meal upon which we are all most dependent for health and continued well being in an economic sense.

For it is the morning hours the world over when the heavy work is done. In school, in business, in virtually every human activity where energy, mental or physical, is expended, the morning hours account for 70% of the total result ; the afternoon hours for 30%, and often less.

Reports of Societies, etc.

—:o.—

SUGGESTED QUESTIONAIRE ISSUED BY THE CENTRAL PROVINCES MEDICAL COLLEGE COMMITTEE WITH ANSWERS

BY

DR. M. R. SAMEY, PH. D., M. D., KAVIRATNA,

Late vice-Principal, Lanka Ayurvedic College,
Basavangudi, S. I.

Questions :—

1. It is suggested that this Province should have its own Medical College for imparting higher medical education to its students. Do you agree with this suggestion ? If not, why not ?

2. (*a*) What do you consider the minimum number of students which would justify the starting of a Medical College ?

(*b*) What do you consider the maximum number of students that could be conveniently educated in a medical college ?

3. What should be the proportion of hospital-beds to the senior students in a medical college which you would consider necessary for affording sufficient facilities for clinical instruction ?

4. What measures would you recommend for inducing women to seek admission in medical college hospitals so that there may be sufficient material for imparting instruction in Midwifery and Gynecology to male students ?

5 (*a*) Do you approve of the existence of medical schools for imparting a lower standard of education than that given in medical colleges and for the grant of a qaualification inferior to the degree granted by the medical colleges ?

(*b*) If you do, do you consider any change in the present four years' curriculum of these schools necessary ? If so, what ?

(*c*) Have you any other suggestion for the improvement of the existing medical school ?

(*d*) If you do not approve of these schools, what measures do you propose for the further and early spread of suitable medical relief in rural areas ?

6. (*a*) Can the existing Government Medical School and the proposed Medical College be run together in the same place, efficiently and economically ? If so, how ?

(*b*) If not, kindly give reasons.

7. (*a*) Do you consider that a Local Government could take any measure for the encouragement of the Ayurvedic system of medicine ? If so, what ?

(*b*) If you recommend any Ayurvedic school or hospital or a Research laboratory or any other institution, would you advise its being in any way combined or connected with the proposed medical college and its hospital ? If not, why not, and in that case, how would you conduct one or more of these institutions separately ?

8. (*a*) In organizing a Government Medical College with its hospital, to what extent would you make use of suitably qualified independent medical men in the discharge of teaching or hospital work ?

(*b*) If you consider any payment to such medical men associated with the college or hospital or both necessary or advisable, could you kindly suggest the system and the scale of remuneration or honorarium you would recommend ?

(*c*) Would you recommend the entertainment of any permanent professional staff for the college and medical hospital ? If so, for which duties, and what scale of pay would you recommend for them ?

9. If you can give an idea of the recurring and non-recurring expenditure for a medical college, with its attached hospital, be good enough to do so, and be kind enough to give your views on recurring and non-recurring expenditure on the teaching of the Ayurvedic system.

10. Do you think that graduates of the M. B, B. S, class will settle down as practitioners in your district? If so, name the places and the number you think could be so absorbed.

11. Any other opinions on the terms of reference to the Committee would be very thankfully recieved (terms of reference below).

With a view to encouraging the spread of suitable medical relief in urban and rural areas in the province :—

(1) to examine and report on the advisability of opening a Medical College in this Province;
(2) to consider the question of the location of the College and the feasibility of combining it with the existing Medical School;
(3) to consider the feasibility and advisability of including an Ayurvedic section in the College;
(4) to suggest measures for the improvement of the existing Medical School;
(5) to estimate the necessary recurring and non-recurring expenditure involved in carrying out the recommendations of the Committee.

Answers :—

1. The need of a Medical College in connection with a University is an urgent one and need not be laboured as a contentious question in as much as no University can be complete without a Medical Faculty. Calcutta has two medical colleges affiliated to the University *viz*, the Medical College of Calcutta and the Carmicheal Medical College, besides a third medical college in the making—the National Medical Institute and yet the need is for more colleges for imparting higher medical education. Bombay has similarly two medical colleges, the Grant Medical College and the Gobardhandas Medical College, besides the National Medical College whose wholesome House was recently opened by His Excellency the Governor. Madras has two medical colleges, one at Vizagapatam and the other at Madras and yet students are denied seats. As such, in these days of demand for higher medical education all over the country, the minimum requirement is one medical college at least for each Province. Ceylon has its own medical college and Mysore has one of its own; Hyderabad has one medical college and as such no case need be made for opening a medical college in connection with the Nagpur University whose graduates naturally require a professional college of medicine as a solution to the unemployment problem awaiting the Arts Graduates whose number is a plethora everywhere and as such I agree with the suggestion and endorse it strongly.

2. (*a*) Twenty approved applicants of University Standard.
(*b*) Fifty students.

3. A medical man cannot be created in one or two years and the senior students can easily be improvised with the necessary clinical material by and by in the General Hospital with little expansion when needed and each senior student can be made to avail of sufficient facilities for clinical instruction in the proportion of 5 beds to a student computing that we will start with twenty students and all of them pass into senior years and this will be 2, 3 or 4 years after starting the Medical College.

4. There must be separate Maternity and Gosha Hospital Blocks attached to the Medical College Hospitals staffed entirely by women medical experts and respectable paying wards with all modern medical paraphernalia should be improvised and encouragement afforded to women in lying to seek Hospital aid by the assurance that the most skilled medical aid is meted out to them and that of the best calibre that is available in the Land. Inasmuch as it is a notorious fact that the instruction imparted at the Indian Medical colleges in these subjects, Midwifery and Gynecology, is of an inferior quality, special care must be taken that real obstetricians and Gynecologists be appointed as Professors in these subjects.

5. (*a*) The invidious distinction perpetuated in medical education in India of two types of medical men was a measure of service exigency due to the fact, that men of a high standard of general education were not coming forth in sufficient numbers to enter upon the higher course of medical study. Now there is no such paucity of men of University standard seeking admission into the Medical College and as such when the older provinces are seriously thinking of making a uniform medical qualification it is unimaginable that this anomaly should be perpetuated in a modern medical scheme of studies. I would strongly hold that the medical schools should be abolished and merged in the medical college thereby saving the dissipation of funds and clinical material and focussing all the available resources of the Provinces in men and meterial for the development of a first class medical college and founding of a strong faculty of medicine in the Nagpur University. An isolated class of medical Practitioners with no recognition outside, unable to pass the Rubicon, a sort of depressed classes in the Profession is an anachronism in these days of International medical comity and self-respecting professional polity. The question of an inferior must be clearly visualized and defined. It must only be inferior in quality and not in recognition as witness the United Kingdom where a London M.D. or F.R.C.S. (England) is on a par with an L.M.S S.A. of London or an L. S. A. of Dublin, so far as recognition by the G. M. C. is concerned. Even so must be the status of recognition of the inferior qualification contemplated, if needs be and if such recognition cannot

be meted out to the prospective lower qualification it had better be dropped once for all that its bogey of inferiority may not rear its head again.

(*b*) Any amount of piecemeal reformation shall not set right the brand of inferiority attached to L M. P. men and a root and branch reform alone shall rectify it. As such remove them lock, stock and barrel once for all and for ever.

(*c*) The need of a medical school having outlived its days and the badge of inferiority having come to be the measure of reward meted out to even Indian medical graduates, any improvement of the medical school shall not further its insular destiny by a whit and it shall be a sheer waste of brain and brawn to think of justifying a "bad choice" made for the nonce in bygone days.

(*d*) Rural medical relief has not been adequately improvised even with these medical schools, since the fashion has been for L. M. Ps to congregate in towns and there shall not be an aggravation of this problem with the abolition of these medical schools. The medical need of the rural areas is being catered only by the country practitioners of the Indigenous Systems of medicine and an effective plan will be to improve the calibre of these medical practitioners of the Indian Systems of medicine by provisions of a first class well-equipped Central Ayurvedic College at Nagpure for turning out competent medical practictioners thoroughly grounded in the basic Sciences of Medicine and instructed in Indian Medicine on a comparative study of the Eastern and Western medical procedures of Practice. This is a thoroughgoing reform and a knock out blow to quackery masquerading in urban and rural areas alike with a will for Reform and a bold bid for tackling the medical problem Once and for all time, a masterly reform must be taken up in hand with a broad catholicity. Economy, efficiency and care are all to be met with in this line of action. Tinkering with reforms is the enemy of all reform and no country in the world has ever solved its problem of medical relief by Government effort alone and least of all is it possible in a huge Indian Province. The local patriotism must be harnessed to the solution of this huge problem and the hold the Indian Systems of Medicine have on the imagination of the masses should be diverted to effectively cope with the desideratum in the rural medical relief. Essaying to honeycomb the Province with Hospitals and Dispensaries of Western type with State initiative alone is a matter of realization in Greek Kalends alone. And as such I propose that an up-to-date Ayurvedic College be established by the C. P. Government to turn out efficient and sufficient number of well-educated and able Vaidyas and Hakims who may be encouraged to settle down in country-practice by a suitable system of grant-in-aid from the Local Bodies and Departments of Local Self Government.

6. (*a*) The existing Government Medical School can easily be converted into a Medical College. The Science Faculty of the Art College must be quite equal to the task of teaching Chemistry, Physics and Biology to the first year medical students. Anatomy can be taught by the present lecturer of the Medical School. In the second year only Physiology will have to be taken up with Anatomy. A professor of Physiology and a well equipped Laboratory of Physiology has only to be improvised, The cost of equipping a Laboratory for twenty to thirty students to start with is not prohibitive. With necessary changes here and there *mutatis mutandis* the existing Medical School may easily be converted into a University Medical College by pooling the teaching resources of the University and the Clinical material of the Hospital. An *obiter dicta* may be written on the Medical School and nobody will weep for the passing away of this anomaly in Western medical education in India and the diguity of the Indian medical profession will all the more be exalted for it.

(*b*) It is a physical impossibility, this huddling together of two types of incompatible medicoes who can never hobnob one another at any distance of time. Smaller good is the enemy of bigger good and as such no passionate attachment to the 'Dodo' of medical education need retain it.

7. A Local Government can certainly do much for the encouragement of Ayurveda and in fact it is the apathy of the Local Government that has been responsible for its gradual decadence and decay. A Local Government that encourages Ayurveda blesses the cause and, what is more, blesses itself in the sense that thereby it will be solving its problem of rural medical relief sufficiently, efficiently and economically. The Government of Madras has established an Indian Medical School at Madras imparting instruction in Ayurveda and Unani. The District Board and Municipalities are authorized to give liberal Grants to Indigenous Hospitals and Dispensaries. The United Provinces of Agra and Oudh have appointed a Board of Indian Medicine to safeguard the interests of Ayurveda in U. P. Liberal grants are given to the Benares Hindu University and Gurukul at Kangri which maintain first class Ayurvedic colleges in their Universities.

The State of Hyderabad has got a well-organized Department of Indian Medicine and School for Hakims. The Travancore Durbar has got a department of Ayurveda and a Director of Ayurveda in the State. There is a first class Ayurvedic college at Trivandrum and a network of Hospitals and Dispensaries run on Indigenous lines. The Government of Mysore has also got an Ayurvedic College and Indigenous Hospital at Mysore besides several Ayurvedic and Unani Dispensaries in the State. Liberal Grants are given to Indian Medical Practitioners. The District Boards, Local Boards and Municipalities are liberally aiding the Indigenous Dispensaries throughout the State.

The C. P. Government can likewise open an Ayurvedic College and assist Indigenous Hospitals A Board of Indian Medicine should be constituted as in U. P. to look after Ayurvedic interests. A well equipped Government Ayurvedic College should be started in Nagpur. Ceylon Government appointed a Committee of Indigenous Systems of Medicine which *inter alia* recommends the establishment of an Ayurvedic College at Colombo. The first step by way of encouraging Ayurveda is to found a first class Ayurvedic College for C. P. (2) To appoint a Board of Indian Medicine for C. P. (3) To give suitable grants and stipends to enterprising Ayurvedists and Hakims. The Ceylon Government Committee on Indigenous Systems of Medicine before which I gave evidence has made a very good and working proposition for the encouragement of Ayurveda and it can be accomplished soon.

The monumental Report of the Madras Government Committee on the Indian Systems of Medicine in two volumes is a public document of practical utility laying down the necessary measures that a local Government ought to take for the encouragement of the Ayurvedic System of Medicine. The Report of the U. P. Government is a splendid document as well and the Ceylon Government Report is full of many workable and practical suggestions. It will be treading the same ground to recount at any length such measures here and the lead given by these provinces in the encouragement of the Ayurvedic System of Medicines may well be followed in any practical scheme of Ayurvedic encouragement adopted by the Government of the Central Provinces.

(*b*) An Ayurvedic College, Hospital and a Research Laboratory are recommended to be established simultaneously but not combined or connected with the proposed medical college for the following reasons:—

Firstly, whether the Faculty of Medicine can take direct responsibility for instruction in Ayurvedic Medicine is a debatable point. This is a very doubtful proposition, at any rate, one open to grave objections from many points of view.

Secondly, will there be one undivided Faculty and will our Doctors and Vaidyas hobnob and elbow one another in and out on a single unpartitioned Board? The very picture is disconcerting. Then the alternative of a Faculty divided into two Boards, each fenced off from the other, though there might be some common members. But the Board will come together on the Senate and the Doctors and the Vaidyas usually decline the responsibility for the rival concern. Such a scheme is wholly impracticable.

Thirdly, it will be a premature step that will injure our embryonic Faculty of Medicine and indeed impede the growth of the University in many directions. It is for the older Universities of Calcutta, Madras and Bombay to set an example in the matter of placing Ayurvedic and Unani Medical Colleges under their University Faculties of Medicine. It is a rather risky innovation for a young University to try this bold experiment of a hotch-potch, an "olla podrida" as it were of Indigenous and occidental faculty of Medicine when older Universities like Calcutta are cold shouldered and shouted off the lines of G. M. C. recognition even though they are meticulously following the classical lines of occidental Medical Faculties.

(*b*) A Board of Indian Medicine on the lines of that established in U. P. should be established. The functions of the Board of Indian Medicine should be to advise the Government in all matters connected with the organization and development of Ayurvedic and Unani systems, to prescribe courses of study for examinations, appoint examiners and conduct all examinations under Indian systems of medicines, confer certificates, Deplomas, and Degrees, register medical practitioners, and to distribute grants placed by the Government at the disposal of the Board. It is such a Board that should conduct separately a central college of Ayurveda at Nagpur.

8. (*a*) The system was tried in Madras and owing to lack of comaraderie between service men and non-official Doctors the scheme proved discouraging and abortive in India although it is working well in England.

(*b*) Honorary professors and Medical officers associated with the College or Hospital will be outstanding and meritorious Medical practitioners who generally do not come for the love of lucre that these appointments bring and as such it is a bad principle to introduce pelf in this noble system of Honorary work.

(*c*) A permanent stipendiary staff for Hospital and College is quite requisite. The Professoriat must be strictly made to devote itself to Research study and ample and adequate pay should be given to tempt them away from stooping to pick pelf in practice.

9. I give below my views on reccurring and nonrecurring expenditure on the teaching of the Ayurvedic System. The cost of an Ayurvedic College is estimated at Rs. 18,000 per annum and this is a recurring expenditure apart from buildings and equipment annually.

		Rs.	As	P.
Salary of Principal at Rs 600 per month	...	7200	0	0
Lecturer in Anatomy and Physiology	...	4000	0	0
1 Lecturer	...	2000	0	0
3 Assistant Lecturers at Rs. 600 per annum	...	1800	0	0
Clerical Staff and other sundry	...	1000	0	0
Rent	...	2000	0	0
Total Rs.	...	18,000	0	0

11. The establishment of an Ayurvedic College on up-to-date lines is an essential in the early solution of rural medical relief problem. A very large proportion, probably not less than 80 per cent of the population have recourse to the Ayurvedic or the Unani practitioner in their ailments and we cannot provide an adequate substitute in the immediate future. Medical practitioners qualified under what is called the Occidental System but which is international like all Science, do not come up to more than 1 for every 10,000 inhabitants even in more advanced Districts, and this number cannot be very rapidly increased as resources are wanting alike in men and money. But a civilized Government must see that there is a proper provision for medical aid for the masses of the people, and at present this vital need can be met in the circumstances of our country only by recognizing the Indigenous Agency and by trying to improve it. No doubt, a system fully applying the resources of up-to-date scientific knowledge to the maintenance of health and sanitation must be the objective, but its spread and diffusion will be slow at the best, even with the most rapid multiplication of hospitals and dispensaries in rural tracts; besides, medical costs on this basis are above the present level of the people's economic income. Accordingly schools of Ayurvedic and Unani Medicine have to be provided on an improved plan and pattern without sending up too much the cost of such medicine or medical aid, and this becomes the concern of the Government in the circumstances of the country.

The Goverment of Madras has given the lead in the matter. The U. P. Government has progressed the cause by leaps and bounds through the establishment of the Board of Indian Medicine. The all British Crown Colony of Ceylon has sanctioned the Majority Committee's recommedations. The C. P. Government has taken up the question of Ayurveda concurrently with the opening of its Medical College. There is no leap in the dark any more in this affair. I stoutly and strongly support the opening of a Medical College and an Ayurvedic College for C. P. concurrently and severally.

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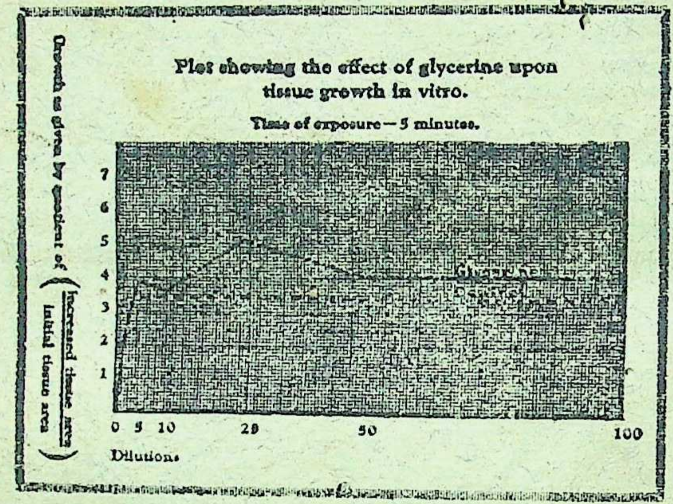

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Vol. IV.] June, 1928 [No. 12.

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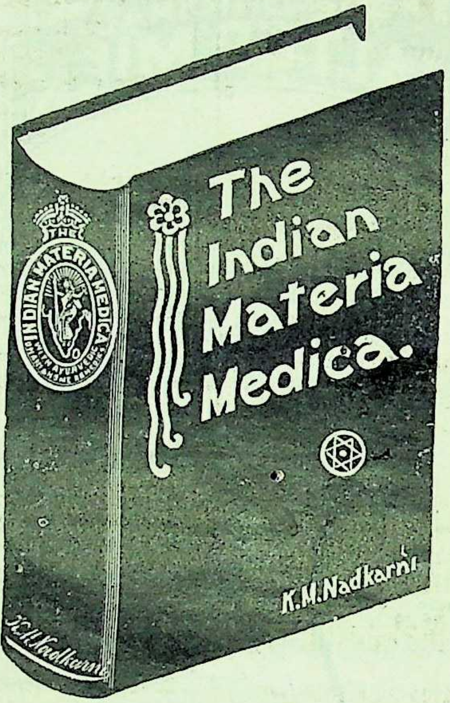

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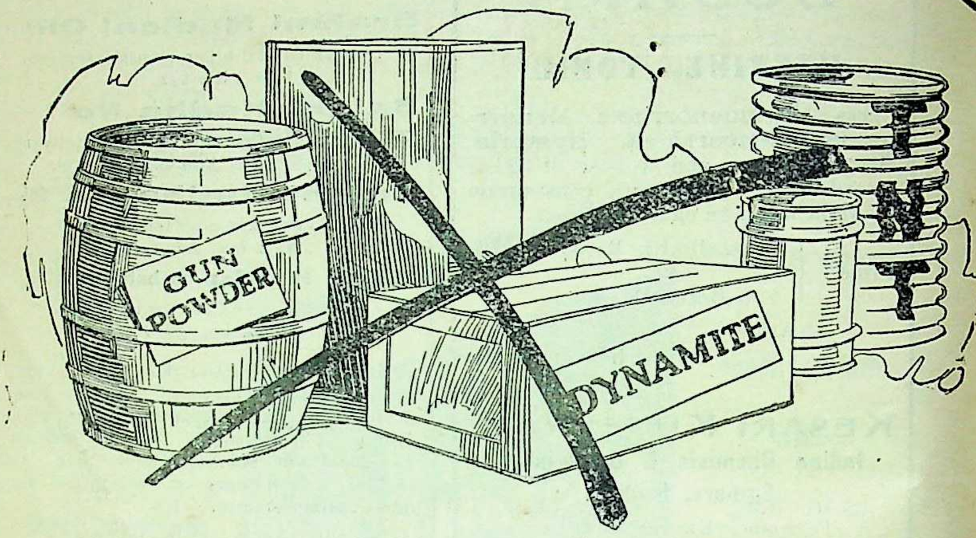
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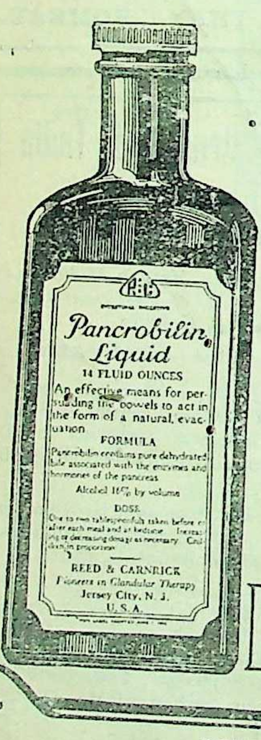
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THE JOURNAL OF AYURVEDA

Vol. IV.] June, 1928. [No. 12.

Scientific *vs.* Practical Medicine

Times without number we are being reminded by our friends of the Allopathic School, that we are not scientific. Scientific medicine is defined as one based on experiment and observation. Our knowledge is not based on Laboratory and animal experiments and instrumental observation (though we have grave doubts about these statements) and hence we are considered unscientific. But as our knowledge is based on bedside observation, experiment and experinece in a God-made Laboratory—the human body, it has no doubt a scientific basis. Assuming for argument's sake that our knowledge is empirical and unscientific we may state that if we are less scientific, we are more practical. The public—our patients will judge the different systems by the result of treatment and will care little whether the diagnosis is based on the "pathology of Infection" as in Allopathy or on the "pathology of constitution" as in Ayurvedā. The medical advisers of the Government admit that the medical graduates who pass out of the various Government medical schools and colleges in India are not so practical as they should be.

"The medical course (at the Allopathic institutions in India) at the present day is so over-burdened that few even of the best students emerge with a clear conception of what they have been taught while the average student *has confused ideas and is unfitted for his life work*" (Editorial, I. M Gazette, May, 1924). In other words, the student becomes too scientific and acquires very little practical knowledge to fit him for his life-work every day *viz.*, relief of suffering humanity.

The student is 'strangely ignorant concerning the commonest of many tropical diseases which he will encounter when he enters upon practice" (Editorial, I. M. Gazette, November, 1924).

Their teachers are equally ignorant of tropical practice and it is too much to expect them to teach the students properly. "Under present day conditions, when the newly qualified English medical man comes to this country, whether as an Officer of the I. M S. or of the R. A. M. C., as a doctor to a group of Tea-gardens or as a medical missionary, he soon discovers that he is up against facts and conditions of which he has had no previous experience. In a lesser degree the newly qualified Indian medical graduate of an Indian University finds the same thing......However brilliant a medical student he may have been at his medical school, *he is in a world of disease of which he has but a scanty knowledge*......With regard to the I.M.S. and the R. A. M. C. the "Milbank course" is supposed to remedy this defect but does not do so practically *as it is unreal and divorced from the actual facts of the situation*." (Editorial, I. M. Gazette, November, 1924.)

Further, the teachers who are specialists in their own lines enjoy considerable private practice, they are too busy with money making and have little time to study and keep themselves up-to-date and prepare their lectures properly.

"The professors of this (Allopathic) system are too often men who are so much absorbed in private practice that they scarcely have the necessary time to devote to improving their teaching or the necessary leisure for reading to bring them up-to-date" (Editorial, I. M. Gazette, November, 1924.)

The present curriculum should be ruthlessly cut down to the "most essential matters" to make our students thoroughly practical. "It is important that the requirements of General Practitioner should be kept in the forefront." (Editorial, I. M. Gazette, January 1926.) For, "the medical curriculum is so extensive that the average student cannot possibly satisfy the requirements of his numerous instructors." (Ibid).

The spokesman of the Indian Medical Service, however, states that "this is impossible. For, the regulations of the General Medical Council restrict our action in framing Course of Studies suitable to India." (Editorial I. M. Gazette, November. 1924). In other words the autocracy of the General Medical Council of the United Kingdom is kneely felt as it should be, by our teachers—the I.M.S. It is all the more natural that the Calcutta University keenly felt the adverse influence of a foreign body and rebelled against the General Medical Council of Great Britain. The latter retaliated by not accepting the Bengal medical degrees for registration.

"These standards (of the General Medical Council) have been devised with special reference to the conditions which prevail in the United Kingdom but for the sake of uniformity these have been accepted" (by the medical advisers of the various Governments constituting the British Commonwealth, countries like Australia, South Africa, Canada, and dependencies like India and others) by the dominions and dependencies of England. "The chief drawback following on the adoption of the curriculum is that they are not devised for the special needs of these countries (the Dominions and Dependencies). *Even in India our medical practice is so very different from those that exist in England, yet there has not been a general demand for autonomy* (because it will affect the vested interest of the medical advisers of Government). Freedom would result from a permanent divorce from the control. (Ibid).

"It must be remembered that it is impossible for any body of men to work out a scheme of medical education which is divorced from the tradition of the past" (Ibid). Yet the medical advisers of the Government had been forced through the autocracy of the General Medical Council to force on India a system of medical education which completely ignores Ayurveda.

Hence Medical Education in India should be so devised that it should take into account not only the present-day medical education but also medical knowledge of the past. This is true both of Ayurveda and Allopathy. While Ayurveda cannot move on in old groove, Allopathy should not be accepted in toto for India. While we should absorb the pathology of the "seed of disease" from Allopathy, we must give the "pathology of the soil" in disease to modern medicine. The two angles are at present different but should be harmonized.

While we can give to Allopathy knowledge of Indian diets and drugs, the specific principles of our treatment, the knowledge of personal hygiene so very suited to Indian conditions, we should take from Allopathy Physiology, Pathology, Bacteriology, Surgery, Midwifery, Mass Hygiene, Pharmacology, etc.

Original Articles

PULSE

Its Theory, Sphigmography and Conditions in Health and Disease, Etc.

BY

ASHUTOSH ROY, L.M S., (Hazaribagh)

(Continued from our last issue.)

Aristotle.

The sensible body in potentiality (God) from whom arises the first principles (Prakriti and Purusha), then the contraries (four in number) and finally the elements (Bhuta) which are five in number (the same as the Pancha Bhutas of the Hindus). Aristotle was the only one amongst the ancient Greek philosophers who conceived of the five Bhutas—Earth, Water, Fire, Air and Ether (ov-via).

Stoics

The first principle of things are two, active and passive, corresponding to primary cause and primary matter. The four Bhutas are transmitted into one another.

The Cellular Philosophy of the Ancient Hindus

The Hindus conceived that the cell of the organic body is a miniature solar system. Paracelsus in the fifteenth century tried to introduce this idea into Europe and he was accordingly dubbed "The mad philosopher of Germany" by his scientific contemporaries. Curiously enough this idea has revived in Europe at the present day, though it was known to the ancient Hindus long ago.

The modern conception of an organic cell is that it is a miniature solar system, a mass of protoplasm surrounded by an envelope with the central Nucleus (corresponding to the sun), the electron charged with positive electricity, round which oscillate or dance smaller protoplasmic particles or Electrons charged with negative electricity.

This great macroscopic phenomena (occurring in the solar system) and at the same time the great microscopic phenomena (occurring in the cell of our body) are typified by the allegorical picture of "Rasalila" of the Hindu religion.

The Human (macroscopic) particles are constantly oscillating between sin and righteousness, between vice and virtue. While the Almighty is attracting them towards Him, the beast in man is constantly trying to prevent this holy union by arousing material desires in our breasts. Once you can completely control these beastly desires, the primitive human instinct, by making it "sublime", you are on the road to divinity.

Turning to the physical aspects of the cellular theory we find the cell regulated by a tiny nerve artery, a tiny vein and lymphatic. The Nerve is the tissue which possesses the regulative force in the cell (Vayu); the artery supplies food material and blood (destructive and re-constructive or metabolic), the inherent force controlling it is Pitta (which destroys and re-constructs) and the vein and the lymphatic carry away waste material, the force corresponding to Kapha (acting complimentarily to Pitta). Thus the Tridoshas are the three forces and the Tridhatus are three kinds of tissues, through which the Doshas act. (*Vide* the writer's article on the subject—Calcutta Medical Journal, October 1911.)

That the Tridhatus are the three great tissues—systems of the body through which the Tridoshas (three forms of energies) act will be evidenced from the following by Dr. Deshmukh. The Tridhatus are:—

(*a*) The highly organized, very unstable, or so to say, electrically active bodies responsible for the formation of Brain, Nerve and Muscle cell and the exhibition of mental function like intelligence and sensation as also motion. (This clearly refers to Vayu as the Nervous system).

(*b*) The highly organised but less unstable and so to say *chemically* active bodies responsible for the formation of cells of glandular tissues and the secretion of various ferments that cause digestion and assimilation.

(*c*) The highly organized but comparatively more stable bodies responsible for the formation and action of more solid structures like Bone, etc. and the reversible process of breaking down of spent up cells. Clearly (*b*) and (*c*) refer to the Katabolic and the Annabolic Endocrines.

The conception of modern Medicine is that every organic body is ultimately composed of cells. The conception of ancient

Medicine is that every cell (Anu) is composed of Pancha-Bhutas in different proportions.

Man is composed of soul, mind and body, of which soul is a spark of the divine and is not material. The mind is ethereal partaking of the characteristics of both matter and spirit and is the connecting link between soul (spirit) and body (matter). The human body is composed of matter which in its ultimate analysis is composed of Pancha Bhuta mixed in different proportions as follows :—

Blood cells	contains excess	of fiery and watery	element
Muscle cell	„	of earthy	„
Fat cell	„	of earthy and watery	„
Bone cell	„	of eathy, airy and fiery	„
Marrow cell Semen cell	„	of airy and watery	„
Menstrual blood cell	„	of earthy and fiery	„
Chyle & milk	„	of watery	„

THE PHYSIOLOGICAL ASPECT OF THE TRIDOSH THEORY

As already stated this most ancient theory of Eastern Medicine corresponds very closely to the latest theory of modern Western Medicine, the theory of "Sympathetic Endocrinology."

It has been stated by some recent commentators that the Tridosha theory begins where Physiology ends. The Tridosha theory as aleady stated is applicable to both physiological and metapnysical aspects of human life, for Ayurveda deals mainly with the body (physiological and pathological aspects) and the Tridosha theory is the tripod on which rests Ayurveda. So this theory deals with physiological and pathological aspects as well.

Ayurveda says that when the three Doshas are in equilibrium health is kept ; ill-health follows when his equilibrium is upset.

Two distinct froms of the Tridosha in Ayurveda

At the outset we must distinguish between two entirely different kinds of Vayu, Pitta and Kapha, as described in Ayurveda, to have a clear idea of the Ayurvedic theory.

(I) The " Ayindriyik " or "Indriya-Grahaniya" form which can be perceived by our senses and corresponds to the humours —wind, bile and phlegm. This form has been explained by Gananath as "a crude or visible form, the products (secretion and excretion) of those processes" induced by the other invisible form. The pioneer European commentators literally translated the three Doshas as the three humours and stopped there, without going into the theory more minutely. Some of the recent commentators of Ayurveda have followed suit.

As the writer had stated elsewhere (Health and Happiness, Calcutta, June, 1923) that to translate the Tridosha as wind, bile and phlegm is of small moment but to interpret the three Doshas upon which the entire Ayurvedic system is based as the three humours and then to jeer at the Ayurvedic system is to give a dog a bad name and then to hang it. Such interpretations reflect to the discredit of the interpretor as shallow and superficial.

Turning to the Ayindryik forms of Tridosha, "the Ayindryik form of Vayu" is the same as air expired, the gas produced by the process of fermentation in the stomach and intestines which are given out as belching or evacuated out of the intestines causing a rumbling noise there during evacuation. Similarly the "Ayindryik Pitta" is the bile produced as secretion from the liver and the "Ayindryik Kapha" as sputum excreted from the chest and throat and as mucous thrown out of the instestines.

(II) The "Atindryik form" is that which is not perceived by our senses. This form has been explained by Gananath as "a fine invisible or essential form which mainly guides the physiclogical processes."

"The failure to recognise these two forms", says Gananath, "has given rise to the erroneous interpretations to wind, bile, and phlegm", the literal translation of these words (Indian Medical Record, January, 1923.)

Confusion between these two forms

It arises on account of the close relation between the above two forms of "Tridosha" (the gross being the product of the fine ethereal forms) and the same word is used in Ayurveda to mean either forms. Further, these two forms are discussed together making the subject still more confusing to non-Ayurvedists. Further, the blending of the metaphysical and physiological aspects of Tridosha has only added to the mystery instead of clarifying it. Lastly, confusion is made worse confounded by freely interchanging Tridosha (the three forms of energy) and Tridhatu (the systems in the human organism where these three forces manifest in action) and naming the theory of Ayurveda, the Tridosha or the Tridhatu theory, indiscriminately.

Elsewhere the writer had stated (Antiseptic, Madras, October 1922) that a great deal of confusion and misconception exists regarding the interpretation of this momentous Ayurvedic theory for the following reasons :—

(1) The same Sanskrit word admits of various interpretations. This is well known amongst Sanskrit scholars on any old Indian subject.

(2) Printing was unknown and detailed elaborate explanation as we find in modern Western Medical books is wanting.

(3) Paper was unknown and only the important points were jotted down on prepared barks of trees—"Bhujyapatra." The explanatory portion used to be verbally taught.

(4) The Ayurvedic theory had not only been discussed in Ayurvedic books, but also in books of "Yoga" oxercises as well as in philosophical and religious books.

To get a comprehensive view of the subject one must therefore study not only Ayurveda but other books of ancient Hindu wisdom discussing the subject

(5) To help memory the subject had often been described in rhymes, which as every body will agree, is not the proper way of discussing a scientific subject.

(6) Lastly, the subject had often been discussed in its physical and metaphysical aspects together, making it more confusing.

Modern Medicine is slowly recognising the intimate interrelation between the mind and the body as did ancient Ayurveda.

Gananath says that the Tridosha theory begins where physiology ends. To be more correct, it comprises both physiological and metaphysical aspects of life.

AYINDRIYIK VAYU, PITTA AND KAPHA

Ayindriyik Vayu is described as light, moving, invisible, which mechanically removes the excretions and promotes secretions. It is wind or gas and its chief seat has been described as Pakkasaya (lower bowels).

Ayindriyik Pitta is described as hot, bitter, oily, yellow liquid having its principal seat in the Gall-bladder.

Ayindriyik Kapha is described as waste product which is formed while food is transformed in the organism into "Rasa" (chyle) and is described as cooling, moist, sweet, occasionally salty, heavy, white, obogenous aud glistening. It corresponds to phlegm and its principal seat is chest and abdomen.

On referring to the physiology of digestion as we find in Ayurveda, we see that food injested is transformed into a grosser part (Kapha or mucous) and a finer essence (Rasa or chyle). This latter goes to the heart through the "Rasabahini Nadi" or Lacteals, from which it passes with the circulation through the liver and the spleen, where the chyle is metamorphosed into a finer portion which helps formation of tissues other than blood, another portion which is tinged red and changed into blood, while a grosser portion which forms Pitta or bile.

Modern Western physiolosy tells us that the chyle, lymph and blood plasma are identical. The chyle corpuscles and the white blood corpuscles are not distinguishable from one another (Gray's Anatomy). It further tells us that the lymphatics and lacteals are identical in structure and cannot be distinguished from each other. How the red blood corpuscles are formed has not been determined with certainty. It is believed that they are derived from *spleen* and red marrow (Kirke's Physiology). The modern theory of bile formation of Voigttin and Bernheim is that *liver* constructs a prepigment material which forms pigment of blood and bile. The materials (pigments) are supplied to red blood cells, while the excess, not needed in the body, is excreted as bile pigment in the bile.

Hence Atindriyik Vayu, Pitta and Kapha may be considered as waste products or humours (and not hormones), being removed as a secretion or excretion out of the system.

ATINDRIYIK VAYU

Its attributes are :—

(1) It courses through the organism in constant currents, just as air courses through the atmosphere. It is of inconceivable prowess and instantaneous in its action. Thus it is akin to *Nerve force.*

(2) It performs all the actions of the organism *e.g.*, circulation, respiration, etc (Wise's Hindu Medicine). Thus it is akin to *Nerve force.*

(3) Vayu, Pitta and Kapha, when normal, are the three Gunas ; when upset are the three Doshas. When deranged they

derange the "Dhatus" (tissues) and the "Malas" (waste products). Of the three Doshas, Vayu is active, the other two are "pangu" (latent) but are rendered active by "Vayu." (Bhabaprakash, Purbakhanda). "Behind the tissues is the Nervous System and behind them the Endocrines. The former acts on and is acted on by the latter," says modern Medicine. Vayu thus maintains equilibrium between the two other opposite "Doshas" thereby keeping the body healthy (Sushruta, Nidansthan). Acting in conjunction with "Pitta", it is heating like the moon's rays (Sushruta). Thus Vayu corresponds in some of its aspects to the action of the *Vegetative or Autonymic Nervous System.*

(4) It imparts motion to the body and its different parts (Sushruta—Sutrasthan). Force has been defined by Deschnel as "that which tends to produce motion in a body at rest." Thus Vayu force corresponds to *Motor Nerve force.*

(5) It carries sensation to the respective sense organs (Sushruta—Sutrasthan), helps sense organs in discharging their proper function (Sushruta—Nidanasthan). Sense of hearing, speech, touch, etc., are directly under it (Charaka Sutrasthan). Thus Vayu force corresponds to the *Sensory Nerve force.*

(6) It forces passage of "Malas" (waste products like urine, fæces, sweat, etc.,) out of the system (Bagbhata). It separates secretions (enzymes and hormones) and excretions from metabolism of food (Sushruta—Sutrasthan). Vayu force therefore corresponds to *Secretory and Excretory Nerve force.*

(7) It keeps the structures and organs in position and prevents, for example, sub-luxation of the joints (Charaka—Sutrasthan). Vayu force therefore corresponds to *Mechanical or Physical force of the Nervous System.*

(8) All bodily and mental acts are performed and controlled by it (Charaka—Sutrasthan). Thus attention is directed to particular object; higher mental functions and emotions are induced and sustained by it. In short, it promotes bodily and mental energy (Bhabaprakash—Purbakhanda). Vayu force therefore performs and controls the *higher mental functions of the Brain.*

(9) It influences metabolism and correct production of internal (metabolic heat (Charaka—Sutrasthan). It keeps uniformity of metabolism (Sushruta—Nidanasthan). It forces passage of "Dhatus" (precursors of tissues) formed from metabolism of food, to their proper receptacles, the various body tissues (also called "Dhatus").

Tissues are thus strengthened and organs are vitalized by it (Bhabaprakash—Purbasthan). It promotes growth of ovum and is the cause of life (Charaka—Sutrasthan). It conveys food material to different tissues and organs strengthening and vitalising them. It determines origin, growth and disintegration of the organism (Sushruta—Nidansthan). Vayu force therefore corresponds to *various Sympathetic or Autonymic Nerve force stimulating the various hormones to perform their respective functions.*

(10) It possesses the property of "Raja-guna" and is therefore one of the "gunas" when not deranged. "Raja-guna" has been defined by Prof. B. N. Seal (Sir P. C. Roy's Hindu Chemistry) as Energy presided over by Vishnu, the God of preservative Energy. By keeping the equilibrium of Annabolism and Katabolism, it preserves the organism.

It should be noted that *Ayindriyik Vayu* being matter in a gaseous state (wind) has the six attributes of dryness, lightness, acuteness, coldness, non-slimininess and possesses the property of motion (Charaka—Sutrasthan). It should not be confounded with *Atindriyik Vayu* which has the attributes discussed above and which corresponds to the forces of the Cerebro-Spinal and Sympathetic or rather Autonymic Systems of Nerves.

If we take the theory as "Tridosha" theory, Vayu represents energy or Nerve force (physical force) of the organism. If we take the theory as "Tridhatu" theory, Vayu represents matter (Nervous structures of the organism, through which Nerve force manifests itself).

Derangement of Atindriyik Vayu manifested in symptoms

Depression of Vayu causes:—

A state of lassitude, shortness of breath, uneasiness, absence of hilarity (depression of spirits) and other symptoms of bodily, mental and organic weakness (Sushruta—Sutrasthan).

There is also associated *Symptoms of Kapha excitation:*

There is coldness of the skin (reduced body-heat) swelling, a sense of heaviness, diminished secretions and excretions (Bagbhata—Sutrasthan).

(*To be continued*).

THE PULSE CONDITIONS IN VARIOUS DISEASES ACCORDING TO AYURVEDIC MEDICINE

BY

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—:o.—

The study of pulse conditions in various diseases have been the subjects of keen observations on the part of ancient Ayurvedic physicians. Most of the treatises deal with some of these diseases although some of them treat the subject in details. Sometimes great discrepancy is found in the opinions of several authors on the pulse conditions of the same disease.

Some general direction have been depicted in Naliprakasa (II. 42*) and Nadibijnanatantra.

एषु रोगेषु बालानां नाड़ी तत्तद्गतिश्चरेत् ।
वातपित्तकफानान्तु ह्रासवृद्धौ तु तादृशी ॥

In (all) these diseases the pulse of children beats with the same movements (that is, shows the same characteristics) and there is also diminution and increase of *Vayu*, *Pitta* and *Kapha* conditions in the same way. The passage evidently indicates, first, that the pulse in various diseases is not only affected in a general way but also shows derangements of the three functional principles, and secondly, that similar changes are to be expected in Children as well.

दोषक्रमेण नाड्यास्तु गतिं ज्ञात्वा सुबुद्धिमान् ।
भावसङ्करमेवात्र ज्ञात्वा सर्वं वदेत् सुधीः ॥
रोगभावं धातुभावं एकीकृत्य वदेत् सुधीः ॥

The intelligent talented (physician), having recognized the beats of the pulse according to the derangement, having reconized the mixture (or union) of the conditions (of the disease and of the three functional principles, Vayu, Pitta and Kapha) and taking into consideration the condition of the disease and that of the three bodily principles together should say everything of the disease.

We now come to consider the various diseases in an alphabetical order.

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* This refers to the numbers in my paper published in October. 1924.

(1) Angachchheda (separation of a limb from the body).

अङ्गच्छेदे द्विविधमता। II. 42

The pulse beats in various ways. It perhaps refers to the different pulse conditions accompanying the different bodily conditions beginning from the accident with its attending shock and ending in the various complications.

(2) Ajirna: This condition includes the various forms of dyspepsia.

(*a*) Acute indigestion (Acute simple dyspepsia).

(i) अजीर्णे तु भवेन्नाडी कठिना परितो जड़ा।
प्रसन्ना तु द्रता शुद्धा त्वरिता च प्रवर्त्तते॥

II. 34 ; II. 20 ; II. 4 ; II. 28 ; II 41 ; II. 36.

(ii) अजीर्णे आमपक्वादि सामान्ये कठिना अकोमला परित उभयपार्श्वतो जड़ा 'अपृथग्भूत-प्रायो वक्ष्यमाण विपर्य्ययेण मन्दगमना च। प्रसन्नेति प्रसन्ना अजीर्णाभाववती द्रुता अकठिना जलभृतेव शुद्धा जाड्यरहिता च त्वरिता शीघ्रस्पन्दा। II. 36.

(iii) अजीर्णेनेति आमपक्व सामान्येन। कठिना अकोमला। परित: उभयपार्श्वत: जड़ा अपृथग्भूत प्रायो वक्ष्यमाण त्वरित व्यतिरेकेण मन्द मन्द गमणा च। प्रसन्नातु अजीर्णा भाववती। द्रुता अकठिना जलप्लुतेव च, शुद्धा जाड्यरहिता, त्वरिता शीघ्रस्पन्दा च। II. 38.

(iv) अजीर्णे पूर्णान्ता वहति वहुमन्दा मृदुवहा। II. 4 ; III. 2 ; III. 37.

(v) अजीर्णे कोष्ठदोषेषु पुष्टा मन्दावहा तथा। II. 42.

(vi) मन्दूकी मदचालीच अजीर्णं समिलणं भवेत्। II. 2.

(vii) অজীর্ণ হইলে নাড়ী জড়ময় হয়। II. 9

(viii) आमाशये पुष्टिविवर्द्धनेन भवन्ति नाड्यो भुजगैकवृत्ता।

(*i*) The pulse becomes hard, and the individual beats are fused with one another (that is the pulse remains full between the beats). When (the pulse) tranquil (that is, normal after the cure of the disease), it becomes quick, pure (that is, the beats are quite distinct and separate from one another) and beats with celerity.

(*ii*) and (*iii*) In simple indigestion, acute or chronic, the pulse becomes hard (not soft) the beats are fused (not separate) on either side, otherwise indicating slow as well. In the absence of indigestion the pulse becomes quick, not hard, like fall of water, pure (that is, no fusion between the individual beats) and beats with celerity.

(*iv*) In Ajirna, the pulse becomes full (inside), is very slow (in rate) and beats with slowness (with regard to velocity.)

(*v*) In Ajirna, due to derangements of the viscera, the pulse becomes full and beats with slowness (low velocity).

(*vi*) In an affection of Ajirna, the pulse beats like the progression of the frog and that of a drunkard (or an excited elephant with the flowing of a secretion from the forehead.

(*vii*) In Ajirna, the pulse-beats become indistinct from one another.

(*viii*) In acute condition the pulse, owing to fullness, beats with a single curve like (the progression of) a snake.

From these texts we find that the pulse in acute indigestion becomes slow, full and beats with low velocity, The explanations quoted in the second and third paragraphs indicate that the same characteristics are also assigned to pakka or chronic condition, but this does not seem to be the case here. It certainly refers to a case of acute simple indigestion.

(*b*) Chronic dyspepsia (Pakkajirna).

(i) पक्काजीर्णे पुष्टिहीना मन्दं मन्दं प्रवर्त्तते ।
असृक्पूर्णा भवेत् कोष्णा गुर्वी सामा गरीयसी । II. 41 ; वहेच्छीरा, II. 36 ;
वहेत् जड़ा II. 4.

(ii) पक्काजीर्णे …………प्रवर्त्तते ।
गुर्वी च रुधिरपूर्णा सामानाडी प्रजायते ॥ II. 36.

(iii) पुष्टीति नतादृक कोष्णेति मध्यकर एव प्रागुक्तं गुर्वी पुष्टीति: परिणान्वय: । सामा
गरीयसी स्थुला गुरुत्वात् । अल्पकठिना कफोद्रेकात् वाताजीर्णेति कठिन्यादि
तानुभव: । II. 36 [Explanation of (i) and (ii)]°

(iv) कोष्णेऽति मध्यकर एव प्रागुक्तं गुर्वी कोष्णेति पूर्वेणान्वय: । सामाचेत् गरीयसी
स्थूला गुरुतायुक्तत्वात् आमस्य, अकठिना कफोद्रेकात्, वाताजीर्णे तु
कठिनेतानुभव: ॥ II. 38. (Explanation of the last two passages).

(*i*) In pakkajirna (chronic dyspepsia) the pulse is without fullness, and beats slowly (or the beats are fused with one another) ; if (the pulse is) full of blood (that is, if already full), it becomes slightly jerky and large. In acuteness (acute indigestion—perhaps indicating an acute exacerbation of the chronic dyspepsia) the pulse becomes full.

(*ii*) The pulse in acute indigestion (an acute exacerbation of the chronic dyspepsia) becomes large and full of blood.

(*iii*) and (*iv*) Explanations of the above two passages.

Thus we see that the pulse in chronic dyspepsia becomes small and slow. This evidently refers to an asthenic type of dyspepsia. In the sthenic type (when the pulse is full), the pulse becomes slightly jerkey (showing forcible cardiac action and peripheral relaxation—the condition we get in *Pitta* function) In acute exacerbations of the chronic dyspepsia, pulse becomes full. Here two conditions are recognized, one with a soft and the other with a hard pulse (iii and iv).

(*c*) Malajirna (Intestinal dyspepsia).

(i) मलाजीर्णे शीघ्रन्तु स्पन्दते धरा। II. 20.

(ii) मलाजीर्णे नाडी त्वरा स्पन्दनंच प्रकीर्त्तितं। II. 34.

(iii) मलाजीर्णे न नितरां स्पन्दते तन्तुसन्निभा।

(iv) समासूक्ष्मा ह्यनुस्पन्दा मलाजीर्णे प्रकीर्त्तिता। II. 20.

(v) शीघ्रमावहते मन्दं मलाजीर्णात् प्रकीर्त्तिता।
स्थूला च कठिना शीघ्रं स्पन्दतेऽतीव शान्तये॥ II. 20.

(*i*) & (*ii*) In Malajirna the pulse beats with celerity.

(*iii*) The pulse beats slowly and is thready.

(*iv*) The pulse is regular, very small (thready) and beats very feebly.

(*v*) The pulse is said to beat with celerity and slowly ; it is stout and hard and beats very slowly with celerity.

The Malajirna probably corresponds to the intestinal indigestion evidently due to several pathological conditions which thus clearly explains the discrepancies between the different physicians. We easily distinguish two sets of cases. In one set, evidently an acute condition or not well advanced in its course, the pulse beats with celerity (that is, the individual beats are very quick), but with a slow rate. In the second set, presumably a chronic and more grave condition, the pulse becomes small (thready), feeble and quick.

(*d*) Mandagni.

(i) मन्दाग्ने क्षीणधातोश्च एव मन्दतरा[2] मता[1]। II. 34. [1]नाड़ी मन्दतरा भवेत्, I. 1 ; II. 4 ; II. 17 ; II. 26 ; II. 31 ; II. 36 i II. 38 ; [2], मन्दवहा, II. 42.

(ii) मन्दाग्ने क्षीणधातोऽपि चरति तथा मन्दं मन्दमेव नाड़ी। II. 9 ; II. 27.

(iii) क्षीणधातोश्च मन्दाग्नेर्भवेन्मन्दतरा ध्रुवं। II. 20.

(iv) क्षीणधातौ च मन्दाग्नौ नाड़ी क्षीणतमा ध्रुवं। II. 38 ; II. 36.

(v) मन्दाग्नौ शीततां याति नाडी हंसकृतिस्तथा।
किञ्चिज्जड़तापि बोधव्या दीप्ताग्नौ लघुता विपर्य्यये॥ II. 36 ; II. 38.

(vi) सौम्यं मन्दाग्नि मन्दगति मन्दवेगा। II. 12.

(vii) মন্দাগ্নিতে নাড়ী চলে হংসের সমান।
ক্ষণে অঙ্গ শীত করে ক্ষণে জ্বালার লক্ষণ॥
ভুজঙ্গের গতি নাড়ী করয়ে গমন।
ক্ষুধা মন্দা মন্দ-অগ্নি জানিবে লক্ষণ॥ II. 9.

(*i*) to (*iii*) In *Mandagni* and in debilitated persons (evidently with weak digestion) the pulse becomes slower (than usual).

(*iv*) The pulse becomes feebler (than usual).

(*v*) In *Mandagni* the pulse beats softly and resembles the progression of a goose. Slight fusion of the beats is to be understood in contrast to the distinctness (*laghuta*) of the beats in *Diptagni*.

(*vi*) The pulse is mild (soft), beats with slow rate and with low velocity.

(*vii*) The pulse beats like the progression of a goose; the body now becomes cold and now shows the symptom of burning. It beats like the progression of a snake.

The Mandagni is the condition associated with a diminished secretion of the gastric juice (as a rule with a diminution in the quantity of the hydrochloric acid known as hypochlorhydria and usually with a diminished amount of pepsin—hypopepsia). The pulse, according to the various authors is characterized by its softness, slowness, feebleness and want of celerity. It no doubt represents an asthenic condition.

(*e*) Diptagni.

(i) लघ्वी भवति दीप्ताग्नौ तथा बलवती स्मृता। I. 1; II. 34; II. 20; II. 38; II. 4.

(ii) दीप्ताग्नौ वेगयुक्तापि अतिलघु। II. 8; II. 20.

(iii) दीप्ताग्नौ तथा वेगवती शिरा लघ्वी न पुष्टा। नाड़ी क्षीणा किन्तु स्वस्था उच्चला च तथा क्षुधार्त्ताया वेगवती धावमाना मन्दाग्नि वैपरीत्येन शीघ्रला क्षीणा च। II. 36.

(*i*) In *Diptagni*, the pulse becomes small (slender) (*laghu*), yet strong (beats with celerity).

(*ii*) In Diptagni the pulse becomes very small, although it is strong (beats with celerity).

(*iii*) The strong pulse is small and not large, that is, feeble; it is yet natural, wavy (rising upwards, that is, somewhat jerky) and due to increase of appetite, beats with force and celerity and owing to an oppositeness of Mandagni, it is quick and slender.

The condition, *Diptagni*, represents one in which there is an increase in the amount of the gastric juice, particularly in the quantity of hydrochloric acid (known as hyperchlorhydria, and symptomatic of the gastric ulcer, affections of the gall bladder, gall stones etc.) The pulse becomes small (slender), but strong, quick and somewhat jerky, and beats with celerity.

(3) ATISARA: The term is used for an abnormal fluidity of fæcal discharges, that is, diarrhoea.

(*a*) Simple diarrhoea.

(i) अतिसारे नाड़ी भवति गतिहीना हिमवती । II. 37 ; II. 4 ; III. 2.

(ii) अतिसारे भवेन्नाड़ी शीता मन्दगति । II. 4.

(iii) निर्वीर्य्यरूपात्वतिसार भेदे । II. 4 ; II. 38 ; III. 2.

(iv) क्षीणा स्यात् अतिसारेऽपि मन्दस्रोतं सदागतिं । III. 2.

(v) म्रियमाना हि वहुधा भ्रमन्ति वहत्यतीसार गताव नाडी । II. 12.

(vi) অতিসারে নাড়ী বিপর্য্যয়-বল হয় ।
নানামত গতি তার জানিহ নিশ্চয় ॥

(vii) अतिसारे च मन्दा स्याद् ग्रीष्मकाले जलौकावत् । II. 38.

(viii) अतिसारेतु मन्दा स्याद्धिमकाले जलौकवत् । II. 20.

(*i*) The pulse becomes motionless (that is, nearly imperceptible) and soft.

(*ii*) The pulse becomes soft and slow.

(*iii*) The pulse becomes feeble (strengthless).

(*iv*) The pulse becomes slender and slow.

(*v* & *vi*) The pulse becomes feeble and beats variously.

(*vii*, *viii*) The pulse becomes slow like a leech in the summer.

Thus we find that the pulse in a case of diarrhoea becomes slow, soft, slender and feeble. In a rather severe case, it becomes imperceptible.

(*b*) Jvaratisara.

(1) मांसहृद्वा तुसा धत्ते ज्वरातिसारयोर्गतिम् । II. 20.

In diarrhoea attended with fever, the pulse is felt as if pushing up from under the flesh. It certainly indicates a slight amount of jerkiness due to fever (Febrile diarrhoea—Steven's Medical Diagnosis, 1910, p. 895).

(c) Dirrhoea arising from the derangements of *Vayu*, *Pitta* and *Kapha*, singly or in various combinations

(i) वातातिसारे वक्रत्वं चाञ्चल्यं पित्तसम्भवे ।

राजहंसगति यादृक् तादृङ्नाड्यः कफात्मके ॥ II. 28 ; II. 38.

In diarrhoea due to deranged *Vayu* the pulse is curved ; in that due to deranged *Pitta*, it becomes quick ; and in that due to deranged *Kapha* the pulse beats like the progression of a goose.

It is very difficult to correlate the three types of diarrhœa with the actual pathological condition, particularly from the standpoint of modern medicine. It is highly probable that these conditions have simply been recognized from the conditions of the pulse indicating the characteristics of *Vayu*, *Pitta* and *Kapha* derangements. At the same time there may be differences in the clinical manifestations. The *Vatatisara* may be one with excessive peristaltic action and passing of winds—more of winds than of watery discharges. In *Pittatisara* we may recognize a bilious condition attended with diarrhoea. The bilious pulse is a slow and soft one. In *Kaphatisara* we are perhaps dealing with an asthenic case and perhaps with much discharge of mucus (hence with the affection of the large intestine and the rectum).

द्वन्द्वजातिसारे नाडी मुहुर्भेकगतिस्तथा ।
वातपित्तसमुद्भूतं प्रवदन्ति मनीषिणः ॥
भुजगादिगतिं स्थूलं राजहंसगतिं तथा ।
वातश्लेष्मसमुद्भूतां प्रवदन्ति महाधियः ॥
मण्डूकादि गतिं नाडीं मयूरादि गतिं तथा ।
पित्तश्लेष्मसमुद्भूतां प्रवदन्ति विशारदाः ॥
सन्निपाते विलुप्ता तु नाडी भवति निश्चितं ॥ II. 38.

We come to diarrhoea attended with double and triple derangements. In diarrhoea due to *Vayu* and *pitta* derangements the pulse takes the characters of the progression of the frog at times. In diarrhoea due to derangements of *Vayu* and *Kapha*, the pulse shows the characters of the progressions of snakes and geese and becomes large (*sthula*). In diarrhoea due to *Pitta* and *Kapha* derangements, the pulse beats like the progressions of frogs and peafowls.

In Sannipata (triple derangement, the pulse becomes lost (imperceptible).

The pulse conditions as depicted for the double derangements are found no-where except in a single work. The underlying pathological conditions cannot be ascertained, particularly as there is no mention of these diseases in Madhavanidana (a treatise on Pathology). In Bhavaprakasa we have only the treatment, perhaps the division into three groups comes from the pulse conditions more than from the general symptom-complexes. In any way we have here mixed types of intestinal affection.

In Sannipata we are certainly dealing with a case of acute enteritis going to be fatal.

(*d*). Amatisara (Acute diarrhoea due to faulty digestion).

(i) आमातिसारेन पृथुल जड़ा च। II. 4 ; II. 38 ; III. 2.

(ii) आमातिसारे सोष्मास्यात् धत्ते मह्रीलतागतिं। II. 42.

(iii) आमातिसारे सोष्मास्यान्मन्दस्रोतसमा गति। III. 2.

(vi) শুষ্ক জড় বিলম্বে যদি করয়ে গমন।
আম-অতিসার বলি জানিবে কারণ॥ II. 9.

(v) आमाश्रये पुष्टिविवर्द्धनेन भवन्ति नाडयो भुजगैकवृत्ताः। II 41.

(*i*) The pulse becomes full and the beats become indistinct from one another.

(*ii*) The pulse becomes hard and takes the progression of an earthworm.

(*iii*) The pulse becomes hard and has the motion like that of a slow stream.

(*iv*) The pulse is distinct. with the beats fusing with one another and beats late in time.

(*v*) Owing to increased fullness, the pulse becomes curved like progression of the snake.

Thus we find the pulse in a case of acute diarrhoea to be full and bounding with the beats indistinct from one another. The terms *soshma* may indicate some jerkiness.

(*e*) Krichchhratisara: The condition is mentioned in Nadiprabodha (II. 36).

कृच्छ्रातिसारे कृच्छ्रतमत्वं नाभिरेचनात् निर्वीर्य्यरूपा अतिमृदुस्पन्दी कदाचितिति प्रायशः शान्ता।

In this condition the severest pain due to cramps round the navel makes the pulse feeble, very slow and rarely imperceptible. It is evidently a case of acute enteritis. (See Osler, Modern Medicine, Vol. III, pp. 326, 330).

(*f*) Chiratisara: It means a case of chronic diarrhoea.

तदा शान्ता अनुवला कदाचित् उपलभ्यमान स्पन्दा च एवं चिरातिसारिणे।

The pulse becomes feeble (not forcible) and weak and the beats are rarely perceptible.

(*To be continued*).

MINERAL POISON

ARSENICUM

BY

AMRITLAL D. TRIVEDI, L.C.P.S., (BOMB.),

Jam-Raval.

(*Continued from our last issue.*)

Therapeutic uses of Reduced Arsenic or Flowers of Arsenic, with their different Anupans :—

Reduced Arsenic or Flowers of Arsenic.	with the juice of Tulsi (Holy Basil)	In Malaria, Kala-azar, relapsing fever and rat-bite fever.
Do.	with (Jasata) zinc Bhasma and Honey.	In locomotor ataxy, paralysis due to syphilis and functional diseases, *e.g.* Hysteria.
Do.	with lump sugar and honey.	In Phthisis and asthma.
Do.	Do.	In skin diseases, *e.g.*, Psoriasis, leucoderma, eczema, syphilitic erruptions and leprosy, etc.
Do.	Do.	In Hodkin's Disease and it is an antidote to snake venom :—

PRESCRIBING HINTS :—

(1) Open the bowels before a course of arsenic, if they are confined, by a dose of castor oil.

(2) Always give after a full stomach.

(3) Give plenty of milk, ghee and nitrogenous food.

(4) Avoid heating, saline, acid, pungent, parched, fried peas and lentils, etc.

(5) Suspend the use of arsenic after a week's course, so as to present its cumulative action. Don't prescribe when any of the

vital organs is acutely inflamed. Always keep the patient under observation, when he has been placed on a course of arsenic, to mark the poisoning syptoms if any.

YELLOW ARSENICUM SULPHIDUM

SYNONYMS IN VARIOUS VERNACULARS :

Sanskrit :—Haritālam.
Bengali :—Harital.
English :—Orpiment.
Gujrati :—Hadatala.

Source—It is a natural salt of arsenic and sulphur. It could be easily obtained from the market.

Character – Sonapatri or Varkhi orpiment is of golden colour and occurs in lump. Various thin plates, like (Abhraka) mica, can be separated from it. It is yellow in clour, when powdered.

Varieties—There are three varieties of orpiment sold in the market : (1) Sonapatri or Varkhi, (2) Godanti etc. orpiment resembling cow's teeth and (3) Dagadi *i.e.* orpiment resembling a piece of turf. The first and the second varieties of orpiment are used for medicinal purpose in Ayurveda and the third variety is used for depilatory purpose, as an external application, with powdered conch shell in equal parts.

SELECTION OF ORPIMENT FOR MEDICINAL USE :—

Sonapatri or Varkhi Orpiment is selected for medicinal purpose in all cases except otherwise indicated. Godanti Orpiment is used where it is specially indicated.

(A) *Process for Correction of Sonapatri orpiment for medicinal purpose* :—

Break Sonapatri orpiment in small pieces. Take 5 tolas of Sonapatri orpiment and tie it in a piece of cloth. Put this in Dolayantra. It must be air-tight. It must contain Kanjika. Put this Dolayantra on charcoal fire for 3 hours.

When the whole thing cools of its own accord, take the orpiment and wash it with plain water. Repeat the process for 12 hours with aqua calcis instead of Kanjika in Dolayantra. (Amarsar).

N. B.—The orpiment is not corrected by soaking in Kanjika and aqua calcis, for a period of time, mentioned above, without boiling.

(B) *Process for Correction of Godanti orpiment for the medicinal purpose :—*

Same as Sonapatri orpiment.

Action—Alterative, caustic and antiperiodic.

Dose—$\frac{1}{12}$ to $\frac{1}{3}$ rati or $\frac{1}{8}$ to $\frac{1}{4}$ gr.

AYURVEDIC PREPARATIONS :—

(1) Reduction of orpiment (*a*) Sonapatri and (*b*) Godanti.

Method No. 1 :—Take one tola Corrected orpiment. Rub it in the juice of Kumarika for three days till it is prepared into a pill mass. Prepare a chakti out of this mass. Wrap this with the Arka-leaf or black Dhatura leaf. Take about 25 tolas of the burnt ash of Aswattha tree bark. Take an earthen pot and fill it half with the ash, by firmly pressing. Put the chakti in the middle and fill the pot up to the brim, by firmly pressing the ash. Put this earthen pot on charcoal fire for three hours. When the whole thing cools of its own accord, take out the reduced orpiment from the vessel carefully. At the time of applying heat, if you find garlic-like smell coming out, put more of burnt ash, by firmly pressing, in such a way that the garlic-like smell disappears. If you find the orpiment unreduced after three hours of charcoal fire, repeat the process.

(*Vaidya Jivan*).

Methods No. 2 and 3 :—Perform the process as shown above, with the different burnt ashes *e.g.* Sweta Punarnava plant or Palasa tree bark.

(*Family Medicine*).

Character—(1) A white, impalpable, light powder, which does not emit garlic-like smell, when placed on charcoal fire.

(2). It is obtained weight to weight.

Dose—$\frac{1}{12}$ to $\frac{1}{8}$ rati or $\frac{1}{8}$ to $\frac{1}{4}$ gr.

Anupan—Honey and Neem bark churna.

Indication—Leprosy, Snake-bite and skin diseases.

(B) Reduction of Orpiment (Godanti).

Method No. I :—Take 5 Tolas of corrected Godanti orpiment (Dhapan) and rub it with the juice of Henna leaves till it is prepared into a small ball. Put this in a covered crusible and do three Kapadmati. Let it become dry. Expose it to Kukutaput. When the whole thing cools down of its own accord, take it out. It is reduced within 1 to 17 Kukutaputs with the juice of Henna-leaves.

Action—as above.

Dose—1 to 2 rati or 2 to 4 grs.

Anupan--Honey.

Indication—Leucorrhoea, Menorrhagia, Metrorrhagia, etc.

Action—Astringent, uterine, alterative and tonic.

(2) *Flowers of Arsenic* :—

Method No. I. :—Take corrected Sonapatri orpiment one tola. Rub it. with the juice of Kumarika for three days in a stone mortar and prepare a chakti. Let it become dry. Take an earthen pot and prepare a cap for that pot from the brown paper. Put that chakti on the bottom of the earthen pot and apply the brown paper cap. Fix the edges of the cap with the mouth of the pot with air-tight Kapadmati. Let it become dry. Put it on charcoal fire for 3 hours. At the time of applying heat, the sulphur begins to burn and various distinct sounds occur, on account of formation of sulphurous acid. When the whole thing becomes cool of its own accord, the white crystals are seen sticking on the brown paper and the edges of the pot and nothing is found at the bottom of the earthen pot. If you find anything on the bottom, unreduced, repeat the process. Collect the white crystals carefully and rub it in a stone mortar to make it to a fine powder.

Character—(1) A white impalpable powder, light in weight, which emits a garlic-like smell when placed on charcoal fire.

(2) It is obtained weight to weight.

Dose—$\frac{1}{12}$ to $\frac{1}{8}$ rati or $\frac{1}{6}$ to $\frac{1}{4}$ grs.

Anupan—Honey and Neem bark churna or Brihat Manjisthadi Kwath.

Indication—Leprosy, snake-bite and skin diseases.

(3) Bhuta-Bhairab Rasa—(Ingredients).

Corrected orpiment 1, Reduced conch shell, and Corrected copper sulphate $\frac{2}{9}$.

Direction—Powder and mix. Rub the ingredients in the stone mortar with the juice of Kumarika, till it is prepared into a pill mass. Divide the mass into pills of half a rati each.

Strength—Each pill contains $\frac{1}{3}$ gr. of orpiment (approximately).

Dose—1 rati or 2 grs.

(4) Tala-Keshari Rasa :—

Ingredients :—Corrected Orpiment 3, Reduced Suvarna makshika 3, Corrected Mercury 3, Purified Borax 3, Corrected Aconite ½ and Rock Salt 3.

Direction—Powder and mix. Rub the ingredients with the juice of lemon, in a stone mortar, till it is prepared into a pill mass. Divide it into pills of half a rati each

Strength—Each pill contains $\frac{1}{30}$ gr. Aconite and $\frac{1}{6}$ gr. Orpiment approximately.

Dose—3 Raties or 6 grs.

(5) Harital Rasa :—

Ingredients :—Corrected Orpiment 2, corrected Mercury 1, purified Alum 5.

Direction—Powder and mix. Rub the ingredients in a stone mortar with the juice of Punarnava and prepare a ball. Put this ball inside a covered crusible. Do air-tight Kapadmati. Let it become dry. Expose it to Kukutaput. When the whole thing cools down of its own accord, take it out carefully and rub it to a fine powder.

Dose—1 Rati or 2 grs.

Anupan—Honey.

(6) Harital Lepa :—or Sneha :—

Ingredients :—Orpiment 2, Realgar 2, Bachuchi seeds 1, Chakramarda-seeds 2, Copper sulphate 1, Borax 1, Sulphur 2, and Camphor 1.

Direction—Powder and mix. Prepare it into a paste with lemon juice for external application when required. It can also be prepared into a sneha with 100 times washed Ghee. Veseline or simple ointment as its base.

PHARMACOLOGY AND THERAPEUTIC :

External Skin :—Orpiment is a caustic and parasiticide, on the unbroken skin and as such, it is used in the form Lepa, or sneha in leucoderma, eczema, chronic dermatitis, etc. There is an Ayurvedic preparation named Harital Lepa or Sneha which is used for this purpose.

Internal : Blood—It is an alterative and tonic, and as such it is used in various skin diseases and skin lesions of syphilitic orgin internally. The Ayurvedic preparation named Talkeshari

Rasa—with ghee (clarified butter) as its *anupan* is used in skin diseases and it is also used with Neem-bark churna or Guduchi-satva (extract) in Leprosy.

Nervous system—It is a nervine tonic in medicinal doses and hence it is of service in hysteria and nervous diseases of syphilitic origin *e.g.* Locomotor ataxy, etc. Flowers of orpiment, reduced orpiment or Bhuta-Bhairab Rasa with proper anupan is used in these complaints with success.

Antidote—Flowers of orpiment or reduced orpiment in 1 gr. dose, every 15 minutes, with water or ghee is used to neutralize snake venom. Eight doses are required at every 15 minutes at the maximum. Alway keep the patient on milk diet, when this treatment is adopted. It is an antidote to rat-bite fever also.

Toxicology :—

Chronic poisoning : (Signs and Syptoms)—See Arsenic.

Antidote—

(1) Stop giving orpiment in any form.

(2) Give a purge of Castor oil.

(3) Give either Kola juice with sugar, Mulak-juice with sugar or Jiraka-churna and sugar for three days.

Therapeutic uses of Orpiment with their different Anupans :—

Reduced orpiment or Flowers of orpiment.	with Guduchi satva, Brihat Manjisthadi Kvath or Neem-bark churna.	In Leprosy and skin diseases.
Do.	with Betel leaf and Trisuganthi churna.	In Impotency and Spermatorrhœa.
Do.	with Piper longum and Honey.	In Dyspepsia.
Do.	with Ghee or Honey.	In Snake-bite or Rat bite.
Do.	with the juice of Tulsi-leaves (Holy Basil.)	In Intermittent fevers *e.g.* Malaria.

Prescribing hints—Same as for Arsenic.

Arsenicum Sulphidum Rubrum.

SYNONYMS IN VARIOUS VERNACULARS :—

Sanskrit :—Manahshila.
Hind. :—Manashila.
Begali :—Manahshila.
Bombay :—Manshila.
English :— Realgar.

Source—It is a natural salt of Arsenic and Sulphur. It is sold in the market and can be easily obtained.

Varieties—There are three varieties of Realgar, viz. Shyamangi, Kana Viraka and Khandakhya, according to Rasa Ratna Samucchya. All the three are used for the medicinal purpose, but out of these three Shyamangi is the best.

Character—Crystals of red colour.

Process for the correction of Realgar for Medicinal use :—

Method No. 1 :—Take 5 tolas of Realgar. Put this Realgar tied in a piece of cloth in Dolayantra. Dolayantra must contain goat's urine. It must be air-tight. Put it on charcoal fire for 3 hours. When the whole thing cools down of its own accord, take it out and wash it with plain water.

Rub it with either lemon juice or Ginger-root juice in a stone mortar for seven days and then dry it in the sun.

(*Rasaratna Samucchaya.*)

Method No. 2 :—Rub the Realgar either with lemon juice or ginger-root juice in stone mortar for seven days and then dry it in the sun.

(*Rasaratna Samucchaya.*)

N. B.—Corrected Realgar can be used without reduction, for internal administration without harm.

Action—Antispasmodic, expectorant, antiperiodic, alterative and paraciticide.

Dose—$\frac{1}{12}$ to $\frac{1}{8}$ rati or $\frac{1}{6}$ to $\frac{1}{3}$ gr.

AYURVEDIC PREPARATION ;—

(1) Manahshila Satva—Process is as under :

Take corrected Realgar 8 tola and corrected Iron-rust (Mandura) 1 tola. Take also treacle, purified guggulu and ghee q.s. Rub all the ingredients in a stone mortar, till it is prepared into a paste. Apply this paste to the lower vessel of the

Damaru Yantra or the Subliming apparatus. Put the Damaru Yantra, on charcoal fire for 3 hours. When the whole thing cools down of its own accord, collect the Satva (extract) from the upper vessel carefully.

(*Rasaratna Samucchaya.*)

Dose—$\frac{1}{12}$ to $\frac{1}{4}$ rati or $\frac{1}{6}$ to $\frac{1}{2}$ gr.
Anupan—Honey or Ghee.

(2) Manahshila Bhasma—Process is as under:

Take corrected Realgar 5 tolas. Rub it in the milky juice of the Milk hedge (English variety) *ie.* the variety of *thupara* which is known as Vilayati in Gujrati and prepare a chakti. Let it become dry. Take an earthen crusible and put quicklime powder in it. Put the chakti and put quicklime over it. Put a second crusible over the first and prepare a covered crusible with three Kapadmati. Let it become dry. Expose it to a Kukutaput. When the whole thing cools down of its own accord, open the covered crusible and you will find the quicklime turned into yellow colour and the chakti of Realgar in white colour. Rub it in a mortar, to make it to a fine powder.

N. B.—There is no difference practically speaking, in Satva and Bhasma, both of them being used for each other.

Dose—$\frac{1}{12}$ to $\frac{1}{6}$ rati or $\frac{1}{6}$ to $\frac{1}{3}$ gr.
Anupan—Sugar and Honey.

(3) Chandeswar Rasa: (Ingredients):—Corrected Realgar 1, Corrected Mercury 1, Corrected Sulphur 1, Corrected Aconite 1.

Direction—Powder and mix. Rub with the juice of Nirgunda vitak and ginger-root juice in a stone mortar till it is prepared into a pill mass. Divide it into pills of half a rati each.

Strength—Each pill contains $\frac{1}{4}$ gr. aconite and $\frac{1}{4}$ gr. realgar.
Dose—1 Rati or 2 grs.

(4) Swaskuthar Rasa. (Ingredients):—Corrected Realgar 1, Corrected Aconite root 1, Corrected Kajjali 2, Round Black Pepper 7, Ginger root 3, and Pepper longum 3.

Direction—Powder and mix. Rub it with water in a mortar, till it is prepared into a pill mass. Divide it into pills of half a rati each.

Strength—Each pill contains $\frac{1}{17}$ gr. Aconite and $\frac{1}{17}$ gr. Realgar approximately.

Dose—2 raties or 4 grs.

(5) Manashiladi Lepa or Sneha—(Ingredients) :—Realgar 1, Mercury 1, Sulphur 1, Red lead (litharge) 1, Round black pepper 1, Jiraka 2, Turmeric 1, and Daruharidra 1.

Direction—Powder and mix. Lepa is used with lemon juice. Sneha is prepared with 100 times washed ghee as its base.

Indication—Skin Diseases, *i.e.* Psoriasis, leucodermia, eczema, ringworm, itches, etc.

(6) Realgar Cigarettes—(Ingredients)—corrected realgar 1, Trikatu churna 3, Dhatura leaves 1.

Direction—Powder and mix. Prepare solution of Potassium Nitrite in water and dip thick paper in that solution. Let the paper become dry. Prepare cigarettes with the paper, prepared as above. One cigarette, should contain 18 grains or 9 raties of the drug. One cigarette is given to smoke, to relieve an attack of asthma.

PHARMACOLOGY AND THERAPEUTIC :—

External : Skin—Realger is an antiseptic paraciticide and has got the property of changing the colour of pigment of the skin and hence, Manashiladi sneha or lepa is used as a local external application in many skin diseases, *e.g.* leucoderma, Psoriasis and eczema.

Internal : Temperature—It is an antipyretic and antiperiodic and hence the Ayurvedic preparations known as Chandeswara Rasa and Swaskuthar Rasa are given to reduce the hyperpyrexia. And to check delirious symptoms, Swaskuthar Rasa is given as smell to unconscious patients.

Lungs—It is a stimulant expectorant and antispasmodic and hence Swaskuthar Rasa is of special service in chronic bronchitis and asthma. Realgar cigarettes is also prescribed as smoke to relieve the bronchial spasm of asthmatic feat.

TOXICOLOGY AND TREATMENT :—

Same as Arsenic and Orpiment.

Th rapeutic uses of Realgar with their different anupans :—

Satva of Manashila or Reduced Manashila.	With Trikatu churna and Honey.	In chronic brochitis and asthma.
Do.	With Vasa leaves and Bhargi root.	Do.
Do.	With milk and sugar.	In intermittent fevers, *e.g.* malaria.

JATUKARNA

BY

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——:o:——

Jatukarna was one of the six disciples of Punarvasu Atreya. In some manuscripts the name is also spelt as Jatukarna. Like Agniveṣa, he wrote a book on medicine known as *Jatukarna Samhita* or *Tantra*. The book is not available now.

Jatukarna is quoted in Sibadasa's commentary, *Tattva Chandrika*, Vijaya Raksita and Srikantha Datta's commentary *Vyakhya Madhukosa*, *Vyakhya Kusumavali*; and in the *Nibandha Samgraha* by Dallanacharya.

1. In *Vyakhvakusumavali.*

1. यदुक्तं जातुकर्णे—

त्रिसप्ताहे व्यतीते तु ज्वरो यस्तनुतां गतः ।
प्लीहाग्निसादं कुरुते स जीर्णज्वर उच्यते ॥ p. 21.

2 जातुकर्णेनाप्युक्तम्—

भूनिम्बघनगुड़ूचीशुण्ठास्ता वा सवार्थभयापाठा इति । p. 36.

3. हस्तिपिप्पलीचवी जातुकर्णे संभावात् ।

दधिधान्यविल्वपाठायवानिकापञ्चकोलगोक्षुरकैः ।
चाङ्गेरीस्वरसे गुदनिःसृतीमूत्रकृच्छ्रार्तिनुद्ग्राहीति ॥ p. 87.

4. अत्र जातुकर्णः :—

क्षीरपञ्चमूलं वलां विदारीं वटादिशृङ्गाश्च ।
निष्क्वाथ्य छागदुग्धे छागविदारीरसे च समे ।
जीवनीयगणकल्कैः पक्त्वा घृताढकम् ॥ p. 145.

5. जातुकर्णेनाप्युक्तम्—

तालीसमरिचनागरकृष्णाः कर्षोत्तरास्त्वगेले च ।
अर्धांशे द्विकुड़वसितं गुटिका विपाच्य शतम् ॥ p. 155

6. तथा च जातुकर्णः :—

दशमूलतुलार्धरसे सक्षारैः पञ्चकोलकैः पलिकैः ।
साध्यं घृताढकार्धं हिक्काकासुदरगुल्मघ्नम् ॥ p. 308.

7. तथा च जातुकर्णः:—

दशमूलकषायस्य कंसे पथ्याशतं गुड़ात् ।
तुलां पञ्चशतो दद्याद्व्योषक्षारचतुष्पलम् ॥
त्रिसुगन्धि सुवर्णांशं प्रस्थार्धं मधुनो हिमे । p. 321.

8. जातुकर्णेऽपि मधुन द्रवे नापि कल्क पनितम् ।
सूत्रकभस्मशताह्वाद्विचारवचाचतुर्लवणकुष्टैः ।
दार्विरसाञ्जननागरसौभाञ्जनहिङ्गुघनभूर्जैः ॥
पक्वफलं पूर्णकदलीरसैः समांशैश्चतुर्गुणशुक्ते ।
तैलं विपक्वमश्रुतिनादश्रवणशुलजन्तुघ्नम ॥
मधुशुक्तमाह—
जम्बीरस्य फलरसं पिप्पलीमूलसंयुतम् ।
मधुभाण्डे विनिक्षिप्य धान्यराशौ निधापयेत् ॥
मासमेतज्जातरसं मधूशुक्तमुदाहृतम् ॥ p. 438.

9. तथा च जातूकर्णः—
महापञ्चमूलोरुवृक्षशिग्रुतर्कारीसिंहीक्वाथ ॥ p. 449.

10. ननु जातुकर्णे—
सार्धत्र्यंशयुतः पूर्णो हस्तः प्रयोगिकादिषु । p. 587.

2. In *Nibandha Samgraha*

1. यदुक्तं जातुकर्णेन—
शुक्रार्थे तैललवणमिति । p. 437.

3. In *Tattva Chandrika.*

1. जतुकर्णेऽपि—
कषायरसगुरूष्णस्निग्धस्नानाभ्यङ्गान नवज्वरे वर्ज्जयेत् । p. 1.

2. जतुकर्णे—
जीर्णस्त्रयोदशदिवसः । p. 9.

3. See 2. V. K. V. p. 18.

4. जतुकर्णे—
शश्वद्रक्तस्य मोक्षणम् । p 24.

5. तथा जतुकर्णेऽप्युक्तं—
आर्द्राणाञ्च द्रवाणाञ्च द्विगुणाः कुडवादयः ॥ p. 30
जतुकर्णे—द्राक्षाया मधुकार्द्धप्रस्थक्वाथः इत्यादि । p 30.

6. उक्तं हि जतुकर्णे—
कृष्णतिलान् शर्करापादिकान् छागीपयसा । p. 43.

7. See 3. V. K. V. p. 50.

8. उक्तं हि जतुकर्णे—
नवनीतं तिलैर्युक्तं शर्करा केशरेण वा ।
नवनीतं घृतं वाजं दध्नो वा खजितः सरः ॥ p. 63.

9. In commenting on the Palankasadyam Tailam, पलङ्कषाद्यं तैलम्, Sivadasa quotes the different readings from Jatukarna.—

जतुकर्णे गोलोमी पठ्यते, नतु पूतना। * * * अतिरसा जलयष्टिमधु, अन्ये तु ज्योतिष्मतीत्याहुः, जतुकर्णे मधुकमिति ॥ p. 125.

10. जतुकर्णेऽप्युक्तं—

काञ्जिके सर्ज्जरसं शीतं खजितं बहुना जलेन दाहहितं विकसानन्तासिक्थ—
सर्ज्जरसैर्युक्तं मथितं वा इति। p 151.

11. See 9. V. K. V. p. 297.

4. In *Vyakhya Madhukosa.*

1. वसन्तशरदोः प्रायः प्राकृतोऽन्यत्र वैकृतः। p. 36.

2. यदाह जतुकर्णः—

आद्याश्चतस्रो दुःसाध्या यमिका मोहतृष्णावतः सद्यः प्राणहृत् ॥ p. 101.

3. जतुकर्णेऽप्युक्तं—

कुपितेन वायुना दीप्तस्याग्ने र्निर्व्वापणं पित्तेनोष्णजलवत् कफेनाम्बुवत्। p. 299

The following formula is attributed to Jatukarna :—

	Formula.	Book.	Page.
1.	Mahatiktaka Ghrita	G. N., I.	17

1. Mahatiktaka Ghrita

जतुकर्णात्कुष्ठे द्वितीयं महातिक्तकं घृतम् ।
करञ्जसप्तच्छदपिप्पलीनां मूलानि कृष्णा मधुकं विशाला ।
यवासकं चन्दनमुत्पलं च स्यात्त्रायमाणा कटुका वचा च ॥
उशीरपाठातिविषारजन्यः किराततिक्तं कुटजस्य बीजम् ।
निम्बासनारग्वधमालतीनां पत्राणि मूलानि च कण्टकार्याः ॥
शतावरीपद्मकदेवदारुमुस्तानि कालीयककेसराणि ।
वासागुडूचीनतसारिवाश्च बला पटोलं त्रिफला च मूर्वा ॥
नीपं कदम्बो धववेतसौ च कर्कोटकं पर्पटकं पयस्या ।
वाराहकन्द मदयन्तिका च ब्राह्मी समङ्गार्षभकं बला च ॥
एतैः समांशैरथ कार्षिकैश्च घृतस्य पात्रं विपचेन्नवं च ।
द्रोणं जलस्याकलुषस्य दद्यात् पात्रद्वयं चामलकीरसस्य ॥
पक्वं प्रशान्तं गतफेनशब्दं प्रयोजयेत् कुष्ठहरं प्रशस्तम् ।
तद्रक्तपित्तानिलसन्निपातविस्फोटपाल्यामयविद्रधीनाम् ॥
किलासकासज्वरगण्डमालाग्रन्थ्यर्बुदानि त्वथ वातरक्तम् ।
हृत्पाण्डुरोगान् सभगन्दरांश्च निषेव्यमाणं नियमेन काले ॥
घृतं महातिक्तमिदं प्रशस्तं निहन्ति सर्वान् श्वयथूपदिष्टान् ।

Books :

Jatukarna Samhita or *Tantra* : Not available now.

Health & Hygiene

CONSUMPTION OR PHTHISIS

Treatment by the Late Hakim Ajmal Khan

(By Babu Prasad Vertha, Delhi)

One hardly need discuss at length the fact that Consumption has become one of the most prevalent diseases in the present age and a large number of human beings is carried away by this malady every year in this country and its victims often fail to get substantial help to get rid of this deadly foe. The disease has ruined innumerable families and has, like famines, plague, etc., done much in the way of increasing the number of orphans, widowers, widows, etc. It is obviously the duty of every philanthropist who is in a position to give any help in the matter to extend that help to the suffering souls.

Having for a number of years attended and looked after a few members of my own family and several relatives who suffered from consuption and most of whom died of that dire disease, I have been able to collect some very useful information regarding its causes, symtoms, treatment etc. which I desire to publish for the information of the public.

The disease is generally known as an incurable malady and in fact in the majority of cases that occurred in my family I had to recognize it as such. But my idea changed when my wife on being attacked by consumption was placed under the treatment of the great physician, the late Hakim Ajmal Khan, who saved her life. I am now confident that if the disease has not much advanced and the treatment prescribed by the great physician be resorted to and continued patiently, there is no reason why the patient should not recover. I would confine myself only to matters of practical value and give below briefly a few useful hints.

SYMPTOMS

Consumption consists in the decay of the lungs. The first sign noticed is dry and backing cough, troublesome in the morning. The patient is easily fatigued and loses appetite, flesh and strength. A slight fever comes on in the latter part of the day. This condition may persist for weeks and months. Burning of the palms and soles may also occur. The disease in the preliminary stage is often disregarded. When the disease advances, the cough grows worse, the expectoration more profuse and is sometimes streaked with blood. The mucus is sometimes so obstinate and sticky that the patient finds it extremely difficuit to spit it out. There are often pains in the sides and the chest. Diarrhoea may occur. Hectic or night fever occurs followed by profuse night sweats. Swelling may appear on the feet. Ultimately the patient dies from exhaustion or from a large blood vessel giving way in the lungs. When the patient's hair begins to fall off and he passes fetid motions, he should be considered nearing death.

CAUSES

Diseases like catarrh, pneumonia, bronchitis malarial fever, syphilis, diabetes, etc., when not well treated are recognized as the fofe-runners of consumptions. Bad stomach, general debility, overwork, worry, excessive loss of vital energy form any cause whatever, want of proper food and clothing, residence in ill-ventilated houses and damp places, frequent use of intoxicants etc. also lead to phthisis.

TREATMENT

The patient should invariably be kept in a well ventilated room and should be well protected from cold and damp. Every effort should be made to give the best rest and comfort to the patient. He should be given nourishing diets like milk, cream, bread, butter, meat, etc., and even if the patient has no inclination to eat he should be given something. The strength of the patient is the first consideration.

As regards medicines I am in a position to recommend only the medicines prescribed by the great physician which I have tried and am still trying successfully. The following medicines (English names of which I do not know) are strongly recommended.—

Sartan-i-Moharraq.—1 Masha.
Samagh-i-Arabi—1 Masha.
Kahruba Shamai—1 Masha.

and Dam-ul-Akhwain, all these medicines powdered and mixed with—1 Masha.

Khamira Khashkhas to be taken first 1 Tola.
Behdana—3 Mashas.
Unnab—5 (do).
Spistan—9 (do).

These three medicines boiled in water and sifted and then mixed with first—1 Tola.

Sharbat-i-Aijaz 2 Tolas should be taken just after the above medicines.

The above prescription should be useed every morning. This is the general course of treatment, a week's trial whereof would convince one of its efficacy. It is not possible for me to bring the whole of my experience and information connected with the great physician's treatment of phthisis within the compass of an article. In case of any doubts, therefore, or if there are any complications etc, the patient will do well to communicate to a physician his trouble and symptoms as fully as possible, when he will give him advice and suggest treatment that would suit his condition.

Where the patient has fever since a long time with slight cough, or where the cough appears to have been preceded by fever, the fact should be particularly noted.

Where the patient had an attack of syphilis previous to the symptoms of phthisis, syphilis is generally the root cause of the evil symptoms and should not be overlooked in the treatment.

Narrow chested people mostly suffer from phthisis. Such people should be specially careful about their health and must develop their chest cavities if they value their lives and must regularly devote sometime to establish the habit of complete breathing instructions which would lead to development of chest to its normal proportions.

In the end I must make it perfectly clear to everyone that I do not claim any thing for myself, I only mean to make it known to the world that like numberless persons I have a great faith in the great physician's treatment of phthisis and various other diseases and I only wish that the geat physlcian being no more among t us, the sufferers may avail themselves of his treatment.

TREATMENT OF TROPICAL DISEASES

Recent Progress

Far too little attention is paid by most people to the fact that the risks to which members of the white race expose themselves by a stay in tropical countries are not so much caused by the climate and its constituent factors, such as heat, moisture, sunburn etc., but rather by the numerous diseases—both of an endemic and epidemic character—that prevail in those parts of the world and that are due to the infection of the human body by the various germs. The curative treatment and—a matter of still greater practical importance—the prevention of these scourges of mankind have only become possible with the gradual increase of our knowledge of the nature, the origin, and the infectious character of their various kinds. Without such knowledge the economic exploitation of many tropical countries would have been quite impossible. Medical science has done yeoman's service, in the true meaning of the term, to the trader, the engineer, and the settler. Tropical medicine in fact has made great strides during the few years that have passed since the end of the War, and the object of the present article is to give a brief outline of the progress that has been achieved in this respect.

MALARIA

Malaria, on account of its immense spread, is without doubt the most important tropical disease. Its manifestations, its progress, its morbific agents (a protozoan of the Plasmodium variety), and the fact that its infection is due to a kind of gnats (Anopheles), have been known for a long time past. An experience extending over many years has shown that quinine is an excellent means of combating it in its different forms (tertian, quartan and tropical malaria). Although, however, the judicious application of quinine generally enables us to remove easily and quickly the symptoms of the disease, it is a fact nevertheless that the treatment, notwithstanding the thoroughness with which it is carried out rarely succeeds in getting rid of the so-called gametes, *i e.*, the crescent-shaped parasites present in the blood of patients suffering from Malaria tropica. They often persist for weeks and even months, and cases are known in which their presence could not be proved until after the injection of quinine. It is these parasites that enter the body of the anopheles gnat where their subsequent development takes place, so that the infection of other persons after a certain time is directly attributable to them. The quinine treatment is therefore unable to interrupt the continuous circle of movement that consists in the passage of the malaria germ from the insect to man and back again to the insect, and the further spread of the disease cannot be checked by it An efficient remedy, however, is now avaliable in the shape of a new preparation, called Plasmochin, which is produced by the German Dyestuff Works (I G. Farbonindustric A. C.) of Leverkusen, and has now been supplied by the makers for several months past. Plasmochin renders valuable services in the treatment of tertian and quartan malaria, but its chief value consists in the fact that the application of small doses is sufficient to cause the disappearance of the crescent-shaped gametes above referred to which are present in the case of Malaria tropica. They definitely and permanently disappear from the blood within a few days of the application of Plasmochin and which, if applied immediately after the first symptoms manifest themselves, is even capable of preventing their presence altogether. Professor Muhlens, of the Hamburg Institute for Tropical Diseases, was the first to notice these effects, and his observations have since been confirmed in hundreds of instances. We are therefore justified in describing the prospects of fighting tropical malaria on a comprehensive scale as exceedingly bright.

DISEASES CAUSED BY WORMS

In South and Central America, as also in the Far East and in other parts of the World, diseases caused by worms play an important part, their number including among others, the infection brought about by the ankylostoma parasite (Ankylostomiasis). Numerous victims succumb to it on account of its immediate effects, *e. g.*, anaemia while the patients' capacity for work is more or less diminished long before its fatal issue. In former years the oil of chenopodium was found an excellent remedy, but its use is now largely supplemented by that of tetrachloride of carbon which has been introduced by American scientists. Its application greatly simplifies the treatment. Above all, the complicated preliminary treatment—which in the case of large number of patients, is practically out of the question, can now be dispensed with. In the Dutch Indies and, more recently, in Latin America too, every workman on certain plantations has been treated with the new remedy, and the results achieved have been extremely gratifying.

SLEEPING DISEASE

The sleeping disease, that terrible scourge of Africa, is caused by certain protozoa known as trypanosoma. It is exclusively confined to the dark continent, the chief parts affected by it being the Congo Free State and East Africa. In recent years, however, it has also spread to a considerable extent in the countries surrounding the Gulf of Guinea, a development which started during the early part of the late War. Formerly several remedies were used to combat it, and the results were quite satisfactory in numerous instances, although few definite cures were effected. One of them, *viz.* atxyl, which was largely used previous to the War, proved to be highly poisonous, and its application often caused the patient to go blind. The well-known chemical Serman Dyestuff Works (T. S. Tarbenindustrie A. S) of Heverkusen, after a prolonged period of preparatory work, have now succeeded in discovering a preparation called Bayer 205 or Germanin which, if appropriately applied, can be relied upon to lead to a definite cure without causing any undesirable subsidiary effects, more especially in recent cases. This preparation, in addition, has also been found eminently valuable for veterinary purposes. Its application is not only capable of curing such horse and cattle diseases as *mal de caderas*, *nagana* and *surra*—all of which are due to the trypanosoma parasite but also of preventing their occurrence provided that it is administered in good time. The contagion causing these diseases is carried by a kind of fly, but animals that have received a dose of Bayer 205 may now be safely driven through districts infested by them without any fear of infection. It is obvious that in this way considerable economic assets can be protected and preserved.

DYSENTERY

Dysentery, a disease caused by amoebean micro-organisms, is also a terrible scourge of tropical regions. Its course is usually very protracted and—on account of the suppurations affecting the liver and the lungs—

it sometimes leads to fatal results. A preparation known as emetin, obtained from ipecacuanha, has been found to be a valuable remedy for a long time past. It is incapable, however, of preventing the frequent relapses, and is ineffective in many chronic cases. It is in these very cases, however, that the new preparation called Yatrene—produced by Messrs. Behring, of Hamburg, and first introduced into practical medicine by Professor Muhlens of Hamburg—results in permanent and rapid successes. Cases that had been lingering on for years and years and that had led over and over again to relapses, have been quickly cured by it. The same preparation has also produced valuable results in fresh cases of the disease.

SO-CALLED INCURABLE DISEASES

A great deal more might be said upon the subject of this article, but want of space prohibits it. It must suffice to mention that tropical framboesia has practically been wiped out in several districts in consequence of the introduction of the Salvarsan treatment, with the result that large hospitals specially erected for patients suffering from this disease are now empty, and that leprosy, formerly regarded as absolutely incurable can be greatly alleviated by the application of chaulmoogra oil and its derivatives and by the use of certain other preparations. In several instances, indeed, complete cures have been effected. Nothing, however, is more conclusive of the progress achieved by medical science in connection with tropical hygiene than the circumstance that cities like Rio de Janeiro, Habana, Panama, Batavia, and others that were formerly dreaded by ships and were, whenever possible, avoided by them, may now be regarded as completely immune from disease, and that their mortality figures compare favourably with those shewn by several places in Central Europe.

Reports of Societies, Institutions, etc.

THE MADRAS AYURVEDIC COLLEGE GRADUATES ANNUAL MEETING IN MADRAS

A meeting of the graduates of the Madras Ayurvedic College was held in Madras on December 27th Ayurveda-Bhushana Pandit M. Doraiswami Ayengar was voted to the chair. A large gathering of graduates of the Madras Ayurvedie College working in the different parts of the Presidency attended the meeting in spite of their heavy engagements during the Congress week and took part in the proceedings of the Meeting.

Before the members took up various points placed before them for discussion, on the suggestion of Bhishagvara N. Kesava Charlu, they first considered the desirability of changing the name of the Madras Ayurvedic College Old Boys Association into "the Madras Ayurvedic College Association."

Ayurveda-Bhushana Pandit M. Subrahmanya Sastry spoke for some time against the suggestion, but Bhishagvara C. Hanumantham seconded and supported the suggestion of Bhishagvara N. Kesava Charlu. The Chairman also gave his support to the idea of changing the name of their organisation and the suggestion was put to vote and passed unanimously by the Meeting.

Many points affecting the future of the graduates were then discussed at length. Members were all very sorry to hear that the authorities of the Madras Ayurvedic College were contemplating to close down the College next year owing to financial and other difficulties. The College was the foremost in India to popularise our ancient Ayurvedic system of medicine and the meeting passed a resolution unanimously requesting the Principal and others to continue the work with the help of the Local Boards who were also requested to support the College with liberal grants. Another resolution was passed to request the authorities of the Government School of Indian Medicine to permit the graduates of the Madras Ayurvedic College to undergo post-graduate courses in their Institution.

A resolution was further passed requesting the Government and the Local Boards and Municipalities to fix the salaries of the graduates working in the dispensaries controlled by the different Boards from Rs. 50-5 and 75 to Rs. 2-8-0.—Rs. 125 grades.

Then Resolutions were also passed mourning at the demise of Messrs E.V. Subbayya and V. Rama Subbau who were the graduates of the College.

The following members were then elected to the executive Committee of the Association for the next year.

President :—Ayurveda Bhushana, Pandit M. Doraiswamy Iyyengar A. K. A. C., *Madras.*

Vice-President :—Ayurveda-Bhushana Pandit M. Subrahmanya Sastry, *Madras.*

Secretary :—Bishagvara, M. Natesan, *Madras.*

Treasurer :—Ayurveda-Acharya Pandit Madhava Menon, *Madras.*

MEMBERS OF THE WORKING COMMITTEE :

(1) Ayurveda-Bhushana Pandit Nori, Ramasastry Garu, *Bezwada.*
(2) Ayurveda-Bhushana Pandit M. V. Sastry, *Mangalore.*
(3) Ayurveda-Acharya I. V. Sarma Garu, *Madras.*
(4) Ayurveda Bhushana, Y. T. Venkatacharya *Madras.*
(5) Bhishagvara, D. Rangacharlu Garu, *Madras.*

With a vote of thanks to the chair the meeting then dispersed.

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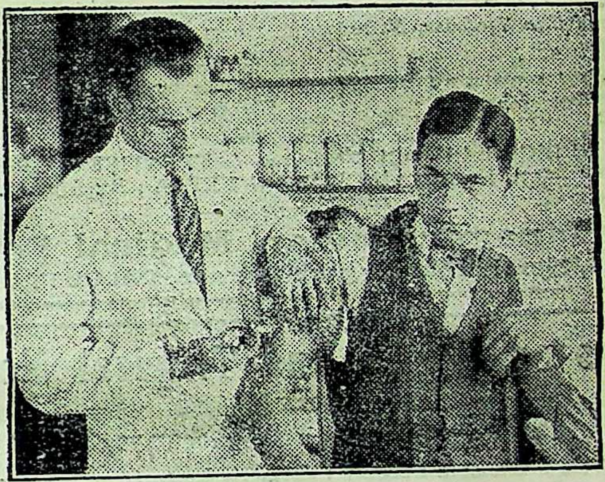

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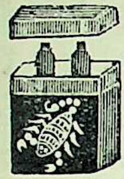

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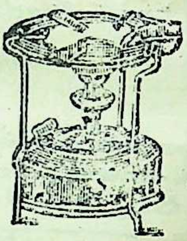

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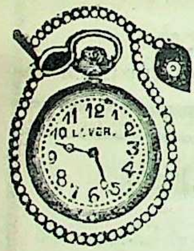

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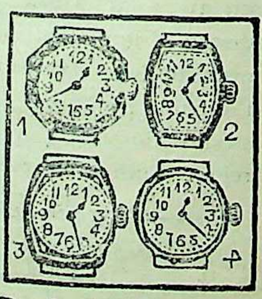

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